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ABSTRACT

The goal of Project SPREAD (State Programs Revitalizing Education and Diffusion) was to assist educators and decision makers in rural settings to develop the best possible educational experiences for preparing students to meet the demands of our changing society by linking small rural schools with their state agency's resources. Project SPREAD proposed to establish in Colorado the capability to diffuse improved practices by creating diffusion units. Later a diffusion unit would be activated in Utah, Wyoming, and Washington based on the test of Colorado's preliminary activities. The procedures entailed creating an organization in the Colorado State Department of Education, analyzing the past diffusion efforts of the state department, studying the structural changes needed in the state department to form a diffusion unit, developing a formative evaluation plan, developing a model for the diffusion organization, and writing a first version of a guidebook for improving small rural schools. Each procedure is described in this report, along with the findings and recommendations; in part, these are that state educational agencies are in a unique pivotal position to provide the diffusion linkage between small rural schools and all other agencies; small rural schools can be an easily managed laboratory site; everyone involved in a cooperative improvement effort requires training; and all diffusion procedures and strategies need to be tested in an operational setting over a long period of time, until all can be made to work reliably. (JB)

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FOUR-STATE DIFFUSION PROJECT SPREAD
(OEG-0-9-150608-4513)
FINAL REPORT
JUNE 25, 1969 TO JUNE 30, 1971

EDWIN P. HILDEBRAND
PROJECT DIRECTOR

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FOREWORD AND PREFACE

The past two decades have been marked by considerable school district reorganization in the four Project states. As a result, almost all of the small rural schools in Colorado, Utah, Washington, and Wyoming meet the criteria for economically feasible necessarily existent small schools. However, the problem of educating youngsters in remote or sparsely populated areas remains. Faced with the fact that school district reorganization of itself cannot solve this small rural school problem, the states involved turn to comprehensive school improvement efforts. Methods of linking these small rural schools with their state agency's resources were seen as a way of solving the problem.

Most small rural schools lag behind other schools in adopting proven new school practices. This lag in adopting improved practices has widened more in small rural schools because these schools lack procedures for sensing needs, translating research results into practice, mobilizing resources, and for locally adopting improved practices. No where in our educational system is this gap between what we do and what we know so pronounced and so critical as it is in small rural schools. The goal of Project SPREAD is to assist educators and decision makers in rural settings to develop the best possible educational experiences for preparing students to meet the demands of our changing society. Project SPREAD was envisioned as a special purpose one-time four-state organization for studying methods and procedures to spread improved school practices into small rural schools. It stresses cooperative efforts of these schools, the state educational agencies, and other educational agencies. Most state educational agencies attempt to accomplish diffusion (spread of practice) on a fragmented basis within each of their own sub-units. Project SPREAD proposed to form a diffusion unit in each of the participating state agencies which would, working cooperatively, develop models and strategies for accomplishing diffusion.

The end purpose of Project SPREAD is <u>not</u> to develop specific innovations, improved school practices, or experimental programs, although, it will do all of these, its purpose is to develop a way of life for educators ... a planful, rational approach to meeting the needs of a changing world so that students in small rural schools may receive the best possible educational experiences. In addition, state educational agencies would also benefit by learning more about how to cooperate in providing better services that directly affect youngsters in these schools, thus, moving the state educational agency away from exporting categorical programs and toward cooperative efforts which more directly affect youth.

The Project Director wishes to express his appreciation to the members of the Policy Board for their leadership, guidance, and direction during the past two years. Members of the Policy Board are: Commissioner Byron W. Hansford, Chairman, Colorado; State Superintendent Walter D. Talbot, Utah; State Superintendent Louis Bruno, Washington; and, former State Superintendent Harry Roberts, Wyoming.

The assistance of the Project's consultants, Bruce Monroe, Instructional Systems Group, Los Angeles, California and Garth Sorenson, Professor, University of California at Los Angeles, was of great value. The support and advice of the State Representatives was also valuable. The State Representatives are: Rowan C. Stutz, Russell G. Merrell, and Kenneth Lindsay, Utah; Harold Smith and Alan Metcalf, Washington; Roger Hanson and Mel Gillespie, Wyoming.

The Project Director wishes to express his appreciation to the members of the Advisory Committee for their counsel. Members are: Russell B. Vlaanderen, Chairman, Educational Commission of the States, Denver, Colorado; R. C. Mercure, Group Vice President, Ball Corporation, Boulder, Colorado; Ray Kimball, Executive Secretary, Colorado Association of Commerce and Industry, Denver, Colorado; Arthur Branscombe, Editorial Staff, The Denver Post, Denver, Colorado; Lorne Woollatt, Associate Commissioner, Research and Evaluation, New York State Education Department, Albany, New York; Lynne Svenning, Consultant, Sausalito, California.

Special appreciation is extended to the following staff members of the Colorado Department of Education for their contributions to the work of this Project. They are: Dorothy Branting, Secretary; Richard D. Taylor, Field Representative; K. Douglas Bassett, Communications Unit Director; and, E. Dean Coon, Assistant Commissioner.

Edwin P. Hildebrand
Project Director
June 30, 1971

AUTHOR'S ABSTRACT

The purpose of Project SPREAD is to aid students attending small rural schools by improving local educational programs. State educational agencies will also benefit by learning more about how to participate in cooperative efforts, providing resources, referral, and technical services needed to assist local adoption of improved practices. In the simplest terms, the Project calls for the development of a "diffusion entity" in the state departments of Colorado, Utah, and Washington which will, in the main, be comprised of existing personnel and funding.

The Project has developed a working Model and Guidebook to assist all who participate in cooperative efforts by guiding their efforts in building and maintaining linkages, diffusion procedures, and school improvement efforts.

This Project builds upon principles learned in a series of small school improvement projects. Project SPREAD has invested two years in the planning, research, and development of this prototype diffusion Model. This Model, with its procedures, guidelines, and training materials, needs to be tested in an increasingly larger geographic area, in increasingly more "resistant" sites, and with increasingly more complex improved school practices. As a result of these tests, formative evaluation will gradually improve all of the above, until workable procedures exist.

TABLE OF CONTENTS

	Page
Foreword and Preface	i
Author's Abstract	ii
Table of Contents	iii
Chapter One - Introduction - Statement of the Problem	1
Chapter Two - Procedures - Key Phases of the Program	3
Chapter Three - Project Products - Estimates of Resources	12
Chapter Four - Findings and Recommendations	23
Appendix A - Scope of Work	26
Appendix B - An Analysis of Past Diffusion Practices	29
Appendix C - Project Assumptions	54
Appendix D - Formative Evaluation Plan	56
Appendix E - Outline of the Guidebook	66
Appendix F - Glossary	69

CHAPTER ONE

I. INTRODUCTION

The format to be followed in this report is mandated by the Revised Scope of Work Unit Statements IV, Reporting the Project, Item C, and is quoted, as follows:

> "The Project Director will provide quarterly progress reports on accomplishments, problems encountered, posed solutions, and work to be accomplished over the ensuing quarter, and a final report that describes and documents the key phases of the program, key decisions that were made, inputs, activities and products, and outputs for each phase, and estimated resource requirements for spreading the program to the other participating state departments of education."

Therefore, this report begins by stating the problem. The procedures used to carry out this research are described in Chapter Two and are entitled, "Key Phases of the Program." These key phases are described under the following categories: key decisions, inputs, activities and products, and outputs for each of the key phases.

Chapter Three will describe the Project products and includes the estimates of the resources required for spreading the program to other participating state departments of education.

Chapter Four provides information about the results, conclusions, and recommendations of the Project.

II. STATEMENT OF THE PROBLEM

On April 30, 1969, the Colorado Department of Education transmitted to the U. S. Office of Education, Bureau of Educational Research, a proposal to activate Project SPREAD (State Programs Revitalizing Education and Diffusion) in the four state departments of education of Colorado, Utah, Wyoming, and Washington. These four states would establish a diffusion unit in their state department of education, and develop and test a model for diffusion by demonstrating it in the small rural schools of these states.

These four states, located in the Western part of the United States, have had up to ten years experience in various multi-state school improvement projects,

and, particularly, those that have dealt with educational problems in rural areas. To date, they have found few successful diffusion models. There are several reasons why there is a lack of such models appropriate to rural areas. First, rurality has the effect of isolating or removing from the mainstream of educational information and diffusion schools found in rural areas. Second, rural schools often lack quality. The President's National Advisory Commission on Rural Poverty reported that "rural adults and youth are the product of an educational system that has historically shortchanged rural people. The extent to which rural people have been denied equality of educational opportunity is evident from both the product of the educational system and the resources that have gone into that system." So, small rural schools do not learn about new practices nor do they have the resources with which to bring about a massive diffusion and improvement efforts. In short, then, the problem is that rural small schools lack the benefit of a development and diffusion improvement effort which could be supplied by their state departments of education were these state agencies equipped to do so. Project SPREAD proposed to establish in the four state departments of education the capability to diffuse improved practices by creating diffusion units in each of the states. Based on their past experience, the states would develop a model and strategies of diffusion and test these models and strategies in their small rural schools.

The state departments of education would demonstrate the workability of this model and continue to improve the strategies until they predictably worked. Involved in accomplishing this task is the need to increase the expertise of the Project staff, the staffs of the state departments of education, and the local pilot demonstration school staffs in developing good diffusion procedures. It also requires the institutionalization in each of the state departments the function and process of diffusion in order that promising practices may be spread rapidly into all schools of the several states. This proposal was not funded due to the lack of available funds. However, it was determined that a 15-month planning grant would be funded. This $113,990 15-month planning grant was later extended nine more months. The planning grant was made only to the Colorado Department of Education to test diffusion strategies in the Colorado Department of Education, thus, eliminating the other three states from action participation in the Project and delegating them to a role of observing what Colorado did in the planning grant period. The problems created by this decision soon became evident.

Thus, the proposal to establish Project SPREAD as a four-state effort and to establish diffusion units in the four state departments of education, became instead a one-state effort (with the other three states observing and re-acting) to plan and test diffusion strategies in Colorado. Later, in another grant, a diffusion unit would be activated in all states based on the test of Colorado's preliminary activities during the planning grant (these activities are described in the Scope of Work Unit Statements to be found in Appendix A of this report).

CHAPTER TWO

I. PROCEDURES

The procedures to be followed in the work plan can be found in Appendix A, Scope of Work Unit Statement Revised. Basically, they entailed creating an organization in the Colorado Department of Education, analyzing the past diffusion efforts of the Colorado Department, studying the structural changes needed in the Department to form a diffusion unit, developing a formative evaluation plan, developing a model for the diffusion organization, and writing a first version of a guidebook for improving small rural schools.

II. KEY PHASES OF THE PROGRAM

A. Creating the Organization

1. The Chief State School Officers involved in Project SPREAD formed a Policy Board.
2. The Policy Board agreed to establish an Advisory Committee.
3. The Policy Board agreed to hire the staff required.
4. The Policy Board elected officers, making Byron W. Hansford, Colorado Commissioner, the chairman.
5. The Policy Board adopted By-Laws for the organization.
6. The Policy Board ratified the hiring of Edwin P. Hildebrand as Project Director, and Richard Taylor as Field Director. They also approved the hiring of two secretaries.
7. The Policy Board appointed State Representatives from each of the other three participating states.
8. The Project Director held staff orientation meetings.
9. The Policy Board suggested nominees for consultants to assist in developing the evaluation mechanism.
10. Colorado reported it was developing a Dissemination and Diffusion Task Force as one of seven major Task Forces within Colorado to study the emerging problems facing public education within this state.

The main problem encountered was the decision made prior to the start of the Project that resulted in funding only a planning grant and not funding it in the amount required to include the salaries of at least one person in each

of the other three states. The result was a lack of involvement and commitment by the observer states in the activities of the Project.

NOTE: A complete description of the above phase and the key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, June 25, 1969 to September 30, 1969.

B. Developing the Organization and Planning the Project

1. The Policy Board recommended that each state adopt a Resolution of Commitment to Project SPREAD.
2. The Policy Board approved the function and roles of the Advisory Committee, and directed that the nominees be suggested to the Policy Board for selection.
3. The Policy Board approved the appointment of Dr. Garth Sorenson, of U.C.L.A., as consultant to assist in the development of the evaluation mechanism.
4. The Policy Board approved the selection of INSGROUP, Dr. Bruce Monroe, Manager, to conduct the "Analysis of the Diffusion Practices in the Colorado Department of Education."
5. The Policy Board heard a report on the work of the Colorado Dissemination and Diffusion Task Force.
6. The Policy Board held a meeting on November 15-16, 1969 in Phoenix, Arizona.
7. The Policy Board reviewed a report of the staff meeting held on October 28-29, 1969 in Salt Lake City, Utah.
8. The Policy Board heard a report on the activities involved in gathering information for the INSGROUP Analysis.
9. The Policy Board heard a report on the work of planning the Project, specifically in the following activities:
    a. Identifying the problem
    b. Defining the problem
    c. Analyzing the problem
    d. Developing the Project Objectives
    e. Developing the diffusion models and procedures

The main problem encountered during this phase centered around the confusion between the Scope of Work Unit Statements, which had been developed by the U. S. Office of Education staff, and the Objectives of the Project, as approved by the Policy Board.

NOTE: A complete description of the above phase and key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, October 1, 1969 to December 31, 1969.

C. Continuing the Planning of the Project, Beginning the Analysis of Diffusion Practices, Conducting the Study of Organizational and Structural Changes Needed to Form a Diffusion Unit, and Broadening of the Involvement of the Project with Other Similar Activities

1. The Project staff completed the collection of the information needed by INSGROUP to accomplish the "Analysis of Diffusion Practices in the Colorado Department of Education."
2. The Project Director arranged for State Representatives to meet with the Colorado Dissemination and Diffusion Task Force and observe their activities.
3. The Project Director made recommendations to the Colorado Department of Education Administrative Council on the organizational and structural arrangements needed to activate the diffusion function in the reorganized Colorado Department of Education.
4. The Project staff continued the work of planning the Project by further refining the identification of the problem, the definition of the problem, the analysis of the problem, development of the Project objectives, and the development of diffusion models and procedures.
5. The Project Director continued working with Dr. Garth Sorenson in developing the formative evaluation mechanism for the Project.
6. The Project Director completed arrangements to include the four states involved in Project SPREAD in a Six-State Retrieval Center Project sponsored by the Northern Colorado Board of Cooperative Services.
7. The Project Director completed arrangements for the Colorado Department of Education and the University of Denver to submit a proposal to conduct Institutes on "Implementing Innovation Through External Change Agents," to the U. S. Office of Education.
8. The Project staff held a State Representative meeting January 14, 1970 in Denver.
9. The Project Director met with the U. S. Office of Education Review Panel on Project SPREAD in Washington, D. C., on February 11, 1970.
10. The Project Director held a State Representative Staff meeting on February 20, 1970.
11. The Project Director held a State Representative meeting on March 23, 1970.

The problem encountered during this phase was the decision to reorganize the Colorado Department of Education prior to the completion of Project SPREAD's "Analysis of Diffusion Practices." The timing of this decision made it difficult because INSGROUP's study was not finalized yet, and this made it difficult to make recommendations about the organizational and structural arrangements needed to activate a diffusion function in Colorado.

NOTE: A complete description of the above phase and the key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, January 1, 1970 to March 31, 1970.

D. Preparing for and Accomplishing the Onsite Review and Continuing the Work of the Previous Phases

1. The Project Director prepared documents describing the Project's progress to date for the U. S. Office of Education Onsite Review Team visit which was held in Denver on May 13-14, 1970.
2. The Project staff spent considerable time discussing the taped oral comments made at the feedback session by the Onsite Review Committee.
3. The Project staff developed comments to reply to the Onsite Review Committee's oral report.
4. Several members of the Advisory Committee, who had been selected earlier, found they had to resign and were replaced by appropriate candidates.
5. INSGROUP's Technical Report, "The Diffusion Practices of the Colorado Department of Education," was completed and compared with the "Final Report" of the Colorado Dissemination and Diffusion Task Force. An analysis showed there was general agreement between both reports.
6. The Project Director developed a one-page Statement of the Problem, a one-page list of Assumptions, and a five-page Brief Explanation of Project SPREAD, as a result of the recommendation of the Onsite Review Committee.
7. The Project Director held a State Representative staff meeting on May 14, 1970.
8. The Project Director arranged a briefing conference on April 20-21, 1970 for all Unit Directors in the Colorado Department of Education concerning the INSGROUP Technical Report. (See Appendix B, INSGROUP Technical Report.)

The problem encountered during this phase was the confusion concerning the format upon which the progress of the Project was to be assessed. The previously agreed upon format was changed by the Review Committee which necessitated the hurried rearrangement of the Project documentation, and the unilateral decision by the Review Team to use an outdated Flow Chart resulted in considerable confusion during the Onsite Review.

NOTE: A complete description of the above phase and the key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, April 1, 1970 to June 30, 1970.

E. Revising the Scope of Work, Extending the Grant Period, and Bringing Precision to the Project

1. The Project staff developed a revised set of Scope of Work Unit Statements for submission to the new Project Monitoring Officer.

2. The Project product which will result from completion of the above revised Scope of Work Unit Statements will be a guidebook

entitled "Organizing Cooperative Efforts to Improve Small Rural Schools."

3. The Project Director developed feedback forms to assist in obtaining feedback from the State Representatives concerning their observation of the Colorado activities.
4. The Project Director prepared a reply to the Onsite Review Report which was submitted to the Project Monitoring Officer.
5. The Project staff began the development of a statement of the design for formative evaluation, and an abstract of the goal, objectives, and activities to be accomplished in Project SPREAD.
6. A copy of the Brief Explanation of Project SPREAD was sent to the members of the Advisory Committee for their critique.
7. The Project staff spent considerable time in developing an outline for the Guidebook entitled, "Organizing Cooperative Efforts to Improve Small Rural Schools," and preliminary discussions were held concerning the selection of a site for testing the Guidebook.

The major problems encountered during this phase concerned the difficulty of scheduling the Advisory Committee meeting because of the members' busy schedules. The appointment of Dr. Lewis R. Crum, Research Director, Region VIII, Office of the U. S. Office of Education, as Project Monitoring Officer, and the extending of the planning time were both of great assistance in bringing correction to the activities of the Project. However, the failure to increase funding for the extended time so as to alleviate the problem of non-funded State Representatives has continued to plague the Project.

NOTE: A complete description of the above phase and the key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, July 1, 1970 to September 30, 1970.

F. Developing the Guidebook and the Formative Evaluation Plan

1. The Revised Scope of Work Unit Statements was accepted by the Project Monitoring and Grants Officer.
2. The Project Director developed a rough draft Version I of the specifications for each chapter of the Guidebook.
3. The Project Director developed a plan for testing the Guidebook in five small rural school districts. These small rural schools are members of the Northeastern Board of Cooperative Services. The innovation to be implemented using the Guidebook is the Science Curriculum Improvement Study (SCIS) elementary science curriculum, and this will be a cooperative effort between the University of Colorado, Denver Branch, the Improved Learning Unit of the Colorado Department of Education, and Project SPREAD.

4. The Project Director has continued the work of bringing greater precision to the Brief Explanation of Project SPREAD and the Abstract of the Project, which includes a Statement of the Problem, a list of Assumptions, and a list of Objectives.
5. The Project staff began the development of a document to be called, "The Formative Evaluation Plan for Project SPREAD." This formative evaluation plan will be tested along with the Guidebook in implementing the elementary science curriculum in the five small rural schools.
6. The Project staff developed a Model for the organizational and structural arrangements to accomplish diffusion in the participating state agencies. Feedback from the State Representatives, using the new feedback forms, assisted in gaining general agreement on the details of the Model.
7. The Project Director began the development of training programs to accomplish the roles which are indicated in the Model. Seven training programs were envisioned and a rough draft of one has been developed.
8. The Advisory Committee held its first meeting on October 16, 1970. The Committee agreed that its role, as determined by the Policy Board, was appropriate. The Committee will perform a quality control function by appraising the quality of work performed by the Project consultants and reporting this, in writing, to the Policy Board. In addition, the Advisory Committee will offer technical assistance to the Project staff and the Policy Board on the best methods to accomplish the Project's goals.
9. A Policy Board meeting was held on December 18, 1970 to seek the commitment of an additional ten days of FTE resource to accomplish the development of State Plans. This commitment was made by the three observing states. To date, Wyoming, Utah, and Washington have committed a total of 50 FTE days each in Project SPREAD, while Colorado has committed 575 FTE days to the development of this Project. This commitment is beyond the time of a Project staff funded under this Project.
10. The Project Director met with the staff of the Northeastern Colorado BOCS to make arrangements for the test of the Guidebook and the Formative Evaluation Plan.
11. The Project Director visited with the staff of the National Center for the Study of Educational Change at the University of Indiana and with officials of the Southern Association of Colleges and Schools at Atlanta, Georgia.

The continuing problem of the State Representatives not being funded by the Project, except for their travel, continues to lessen the commitment of time and priority that they can apply to Project matters. The result is that progress continues to be slower than increased funding would have permitted.

NOTE: A complete description of this phase and the key decisions, including the inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, October 1, 1970 to December 31, 1970.

G. Developing the State Plans, Completing the Formative Evaluation Plan, Refining the Guidebook, and Beginning the Test of the Guidebook and Formative Evaluation Plan

1. The Project Director assisted the State Representatives in preparing their State Plans by developing a proposed Table of Contents for the State Plans, a Statement of Goals and Objectives for the Project, a list of Criteria for Cooperative Diffusion Strategies and Approved Variations to the Project Model. These activities resulted in the acceptance by the participating states of the format listed above.
2. The Project staff completed the development of the Formative Evaluation Plan for Project SPREAD and the Plan is ready for testing with the elementary science curriculum adoption in the five small rural schools.
3. Arrangements were completed for beginning the test of the Guidebook in the adoption of the elementary science curriculum in the five small rural schools.
4. The Project staff completed a first draft of the training program for the observer's role. It will be tested by using the Formative Evaluation Plan and portions of the Guidebook in the five rural schools. The taped scenario of this training program and a set of key questions about the observer's role were also developed.
5. The Project Director delayed the revision of the rough draft Version I of the Guidebook until the test of the Formative Evaluation Plan and the Guidebook had been completed, and it will probably be postponed until the operational phase of the Project. However, there will be considerable editing being made by the Project staff prior to the operational phase.
6. A graduate student intern, assigned to the Colorado Department of Education, was hired to perform the role of the observer in the test of the Guidebook and the Formative Evaluation Plan. He visited the five small rural sites, pretested students and teachers and observed all the training sessions and provided feedback to the Project staff for revision modification purposes.
7. The State Representatives completed rough drafts of their State Plans for Utah and Washington. The Plans were reviewed by the Project Director who supplied suggestions for revisions.

8. An Advisory Committee meeting was held on February 18, 1971 for the purpose of appraising the quality of performance of Project consultants in the following activities:

   a. Instructional Systems Group, Bruce Monroe, Manager, who performed the "Analysis of the Diffusion Practices of the Colorado Department of Education."
   b. Dr. Garth Sorenson, U.C.L.A., Los Angeles, California, who developed the Formative Evaluation Plan for Project SPREAD. The Advisory Committee made a written appraisal report to the Policy Board on the work of these two consultants.

9. A Policy Board meeting was held at the Seattle-Tacoma Airport on March 23, 1971. At that meeting, the following was approved:

   a. Wyoming's withdrawal from the Project.
   b. The Advisory Committee report was accepted.
   c. The Utah and Washington State Plans were approved.
   d. Project Director directed to prepare proposal for an operational grant.

10. The Project Director had a staff meeting on February 2-3, 1971.
11. The Project Director met with Dr. Lewis R. Crum, U.S.O.E. Project Monitoring Officer, on February 4, 1971 and on March 16, 1971.

The only problem encountered during this phase was the forced decision to postpone any revision of the Guidebook until the test of the Guidebook and the Formative Evaluation Plan had been completed, or until the operational phase of the Project should begin, following funding of the proposal.

NOTE: Detailed description and documentation of this phase and the key decisions, including inputs, activities and products, and outputs, can be found in the Quarterly Progress Report, January 1, 1971 to March 31, 1971.

H. <u>Developing the Operational Grant Proposal, Editing the Rough Draft Version of the Guidebook, and Completing the Final Report of the Planning Phase</u>

1. The Project Director prepared a proposal requesting a grant for an operational phase of Project SPREAD. This proposal requested the first year's funding for a five-year operational phase of the Project. It was submitted to the U. S. Office of Education on April 20, 1971. It requested multiple funding from The National Center for Educational Communication, the National Center for Educational Research and Development, and from the Office of State Agency Cooperation.

2. Further editing was done on Version I of the Guidebook entitled "Cooperative Efforts to Improve Small Rural Schools."
3. Members of the Project staff, the State Representatives, and selected members of the Colorado Department of Education assisted with the editing of the Guidebook.
4. The Project Director prepared a final report to the U. S. Office of Education as directed in the Scope of Work Unit Statements and the grant documents.

CHAPTER THREE

I. PROJECT PRODUCTS AND ESTIMATES OF RESOURCE REQUIRED TO SPREAD THE PROJECT TO THE OTHER PARTICIPATING STATE DEPARTMENTS OF EDUCATION

A. Description of the Project Products

During the two years of its existence, the Project SPREAD staff has developed the following products:

1. A diffusion model entitled, Structural Model of Cooperative Efforts, by which improved school practices are located, selected, organized, carried out, tested, and self-renewal accomplished in small rural schools. (See Also Appendix C, Project SPREAD Assumptions and Diagram on page 13.)
2. A Formative Evaluation Plan for Project SPREAD which is designed to guide modification of the Project's procedures for the purpose of immediate improvement. (See Appendix D, Formative Evaluation Plan for Project SPREAD.)
3. A first draft version outline of a Guidebook entitled, "Cooperative Efforts to Improve Small Rural Schools." (See Appendix E, Summary Outline of Specifications for Chapters in the Guidebook.)

The structural model (see diagram on following page) is a modification of the Havelock Linkage Perspective, modified in light of rural sociology, the participating states past experience in rural small school improvement projects, and more recent behavorial science findings. The model is the result of two year's study and planning by the Project SPREAD personnel in the four states. It depicts the roles performed by a variety of persons. One person may perform more than one role, while some specific roles are performed by more than one person. The model is really a synthesis of three smaller components:

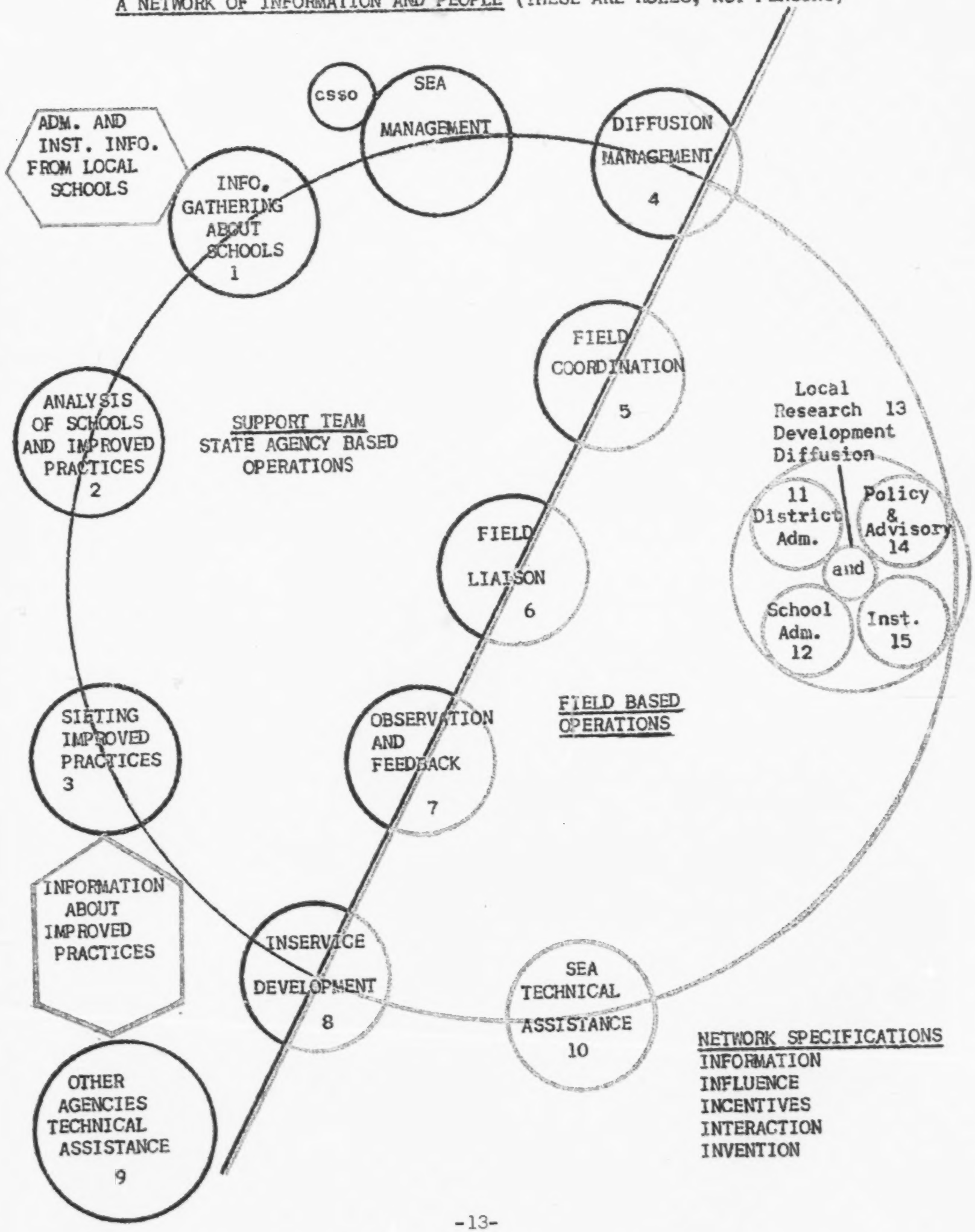
1. Information gathering and analysis.
2. Diffusion management and training.
3. Local district implementation of innovation.

Component #1, the Information Gathering and Analysis Component, provides for a comparison of data produced by two information networks. The first information network produces small rural school data which, when analyzed, will divulge the needed improvements in any group of schools or in a particular school. In the diagram, this is role #1. Role #2 calls for the analysis of the information in both networks. The second information network is linked with the state, region, and national information centers to bring verified information about available improved practices. A committee will sift these improved practices for their appropriateness to small rural schools. In the diagram,

[redacted] PROJECT SPREAD MODEL FOR DIFFUSION

THE STRUCTURE OF A COOPERATIVE EFFORT BY WHICH IMPROVED PRACTICES ARE LOCATED, SELECTED, ORGANIZED, CARRIED OUT, AND TESTED IN SMALL RURAL SCHOOLS.

A NETWORK OF INFORMATION AND PEOPLE (THESE ARE ROLES, NOT PERSONS)



NETWORK SPECIFICATIONS
INFORMATION
INFLUENCE
INCENTIVES
INTERACTION
INVENTION

this is role #3. Component #2, the Linkage Diffusion Component, provides for the multi-agency cooperative efforts, the arrangements, management, and the training required. It also provides linkage so that information, incentives, and technical assistance are provided to small rural schools who are interested in adopting improved practices. The third component, Local District Implementation Effort, provides for the linkage of local resources with the multi-agency linkages and the information network. Therefore, the total resources of this three-component network is focused upon utilizing the information, incentives, inventions, interactions, influence, and technical assistance in bringing about (through a community oriented change process) the adoption of improved school practices and the institutionalization of this change process into a self-renewing organization.

Another way of viewing the model is to describe each of the roles in the diagram by their functions:

1. Provides for the systematic gathering of information about local schools, (present information that is now reported to state and national agencies, plus). The person performing the role will collect information about administrative/instructional practices that are currently being used in rural schools and pass this information on to the person performing the analysis of school and improved practices.
2. The person performing this role will analyze this information about small rural schools and compare it with an ideal model, which will be provided by the Sifting Committee. He also will receive, from the Sifting Committee, information for analysis about practices that are appropriate for small rural schools. He must be able to make comparisons of these two types of information and to produce a rank order list of schools that are most needful.
3. The Sifting Committee will develop a model of an ideal small rural school by gathering information from multi-sources. This ideal model will tell or describe an ideal school in relation to its practices, materials, and content taught. The Committee will also sift the information on available new practices and provide it to the assessment analyst after determining those which are appropriate to small rural schools.
4. The diffusion manager is the man to whom all others in the model are responsible, directly or indirectly. He will select an inservice training developer, but his main responsibility is to see to it that improved school practices are located, selected, organized, carried out, and tested. To do this, he will have to work with different groups of people in state agencies, private concerns, and local school districts.
5. The person performing the role of field coordination will provide for management of the field effort in the pilot schools and provide the technical assistance in the change

process to the school districts. He works with superintendents, principals, teachers, technical consultants of the various agencies, local boards of education, local advisory committees, and news media sources.

6. The field liaison role is responsible for forming an additional partnership between the state agency and the local agency. It provides the avenue for the local agency to report to the state agency on needs for personnel adjustment in this effort. This is accomplished through monthly reports and interviews between the field liaison and the local superintendent. There is close coordination between the field coordination and the field liaison roles.
7. The person performing the observation and feedback role will observe, record, and report on all phases of the diffusion effort to the diffusion manager. This will include the training sessions and the local implementation effort.
8. Inservice development. This is the person that will see that training is given to all those people on this diagram, to see that the training is effective, and to see that the training and training materials are changed as needed.
9. and 10. Technical assistance from other agencies and state educational agency technical assistance are a pool of people with specialized technical assistance expertise in the multitude of innovations to be adopted. Some will have expertise in more than one specific innovation, others will have expertise in, for example, reading, nongraded organizations, and early childhood education.

Roles 11 through 15 are roles provided by the local research, development, and diffusion community-oriented change team. They are commonly thought of as the local superintendent of schools, the principal, the school board, the teachers, the students, the lay advisory committees, and others concerned with the local improvement effort. Eventually, all of the roles, 1 through 10, will be shifted to the local school district, and local people will be trained to perform these roles. When local people are adequately performing these roles, the local district will then have achieved an operational definition of the self-renewing organization.

The Formative Evaluation is not unlike the idea of quality control in industry. Simply stated, it is the idea that part of the effort and resources ordinarily expended in developing and using any improved program should be devoted to testing out and improving these programs, particularly, during the course of their development, in order to make certain the program will, in fact, work, or is, in fact, working with a particular group of students. This concept of evaluation for course improvement, project improvement, or program improvement began with the work by Cronbach (1963), Formative Evaluation by Scriven (1967), and "Operations Research" by others. In the past, programs have often been tested to see if, in fact, they do work. But the notion of improving a program as it is being developed is even more important than the

notion of testing it. Sophisticated program developers do not expect a program to work well the first time it is tried; so, as developers, they see it as part of their task to take steps to find out why it is not working. They change it, try it again, and continue the process until the program becomes effective for those for whom it is intended. Fundamental to this formative evaluation approach is a set of assumptions:

1. Any program should be expected to bring about measurable changes in the students, and that if the program fails to produce these changes, there is something wrong with the program.
2. Instructional programs should be repeatable and reliably taught.
3. Instructional programs should be pretested.
4. Any given program will work more effectively with some students than with others; a formative evaluation plan should be designed to obtain information about the characteristics of the students, and, especially, about the characteristics of those students who do not learn from the program.
5. Formative evaluation requires a particular array of roles, skills, and tools which have not traditionally been employed in developing programs. In developing an (instructional) program, it is obvious that questions regarding the "content-validity" of the programs be answered. Some of the technical questions which must be answered include:
   a. What could go wrong during the instructional process? At what point in the program is failure most likely to occur?
   b. Who is in a position, or can be placed in a position, to pick up and feed back clues as to the nature of that failure, if it does occur?
   c. What procedures are needed systematically to obtain information from observers about the nature of the difficulties encountered by the users in learning and applying the program, and by the students in learning what the program intends for them to learn?

If these questions are to be answered, the formative evaluation approach has to take into account consideration like these listed below in setting up a program development plan:

1. The users must be trained. Therefore, someone needs to perform the trainer role.
2. During the tryout cycle, the useres should be monitored to see if they are, in fact, using each component as planned. Therefore, someone on the program development team must prepare schedules and perform the monitor role.

3. Students must be pretested and post-tested. Therefore, someone must choose or build instruments and administer them - this is the evaluator role.
4. The trainer, the users, the monitor, the evaluator, and the students should be asked routinely and systematically to note where difficulties occur and should be invited to suggest possible solutions to those difficulties. Therefore, someone must be assigned the task of asking questions and recording answers. Someone, perhaps the development team as whole, will need to review those answers and make revisions in the program accordingly.

The above general comments about formative evaluation provide the basis upon which the Formative Evaluation Plan for Project SPREAD was developed. The purpose of SPREAD is to develop and partially test a set of procedures (plan or model) which, if adopted, will enable small rural schools of Colorado, Utah, and Washington to evaluate and improve their operations continuously. To do this, two types of information will be gathered and transmitted:

1. Information related to needed school practices in those states and in other parts of the country.
2. Information relating to how well the diffusion organization is operating and what needs to be done to make it operate better. (A complete description of the Formative Evaluation Plan for Project SPREAD can be found in Appendix D of this report.)

The Project SPREAD procedures (model or plan) has been described and, to a large extent, operationally defined in a collection of documents called a Guidebook. The Guidebook is entitled, "Cooperative Efforts to Improve Small Rural Schools." The Guidebook will:

1. Present the rationale for the cooperative diffusion effort, the sources of that rationale, related studies, belay misconceptions, answer general questions, etc.
2. Specify the activities, procedures, or operations to be performed by persons or groups performing each of the roles in the cooperative effort, including those persons whose task it will be to make the effort increasing effective.
3. Include a number of "training packages," one for each role in the organization.
4. Describe the "formative evaluation" or "corrective feedback" procedures for:

    a. Checking on and improving the success and efficiency of each of the persons or groups occupying each of the role positions, thereby gradually improving the effectiveness of the cooperative effort as a whole.

b. Make the Guidebook inteligible to general readers.
c. Periodically revise the SPREAD Project itself.

In brief, the strategy is as follows: Each of the above, e.g., each training package will be written in preliminary form, then tried in the field, then evaluated, then revised, and the cycle will be repeated until it has been demonstrated that a given portion of the Guidebook is effective with members of the cooperative effort for whom it was designed. Beyond that point, revisions will continue to be made, but less frequently. (See Appendix E, Summary Outline of Specifications for Chapters in the Guidebook.)

II. ESTIMATED RESOURCE REQUIREMENTS FOR SPREADING THE PROGRAM TO THE OTHER PARTICIPATING STATE DEPARTMENTS OF EDUCATION.

The Project SPREAD Model developed during the planning grant has not been demonstrated in any state department of education. In order to spread it to the state departments of education in Colorado, Utah, and Washington, the following job categories need to be implemented:

1. One project director
2. One assistant director
3. A diffusion manager in each of the three states
4. A field coordinator in each of the three states
5. One inservice training developer
6. An observer in each of the three states
7. A local information data processor in each of the three states
8. An improved practices retrieval specialist in each of the three states
9. A needs analyst in each of the three states
10. One sifting manager

In addition, there are eight categories of contracted services, including:

1. An Information Retrieval Center Services
2. An independent auditor
3. A formative evaluator
4. Sifting consultants
5. Training consultants
6. Advisory Committee members
7. Improved practices technical assistance consultants
8. Planning and management consultants

A budget breakdown for the implementation of these ten job categories and eight contracted services can be found on the following pages. The total Project cost for one year includes a 20 percent indirect cost, but does not include approximately $450,000 of matching in-kind costs contributed by the states. The in-kind costs consist mainly of a contribution of staff members for technical assistance to implement Project SPREAD's efforts in a total of twelve school districts in the first year in the three states.

PROJECT SPREAD
BUDGET BREAKDOWN
JULY 1, 1971 - JUNE 30, 1972

A. DIRECT COSTS

1. Personnel Salaries

a. Central Staff:

	FTE	Rate
Project Director	1	$19,200.00
Assistant Project Director	1	17,000.00
Sifting Manager	1	15,000.00
Inservice Coordinator	1	15,000.00
Secretaries	3	19,000.00

Total Central Staff $ 85,200.00

b. State Staffs:

	Colorado		Utah		Washington		Totals	
	FTE	Rate	FTE	Rate	FTE	Rate	FTE	Rate
Diffusion Managers	1	$18,000	--	---	1	$18,650	2	$36,650
Field Coordinators	1	15,000	1	16,000	1	15,750	3	46,750
Local Information Data Processor	1/3	4,000	1/3	4,000	1/3	4,000	1	12,000
Need Analysts	1/2	8,000	1/2	6,000	1/2	8,875	1½	22,875
Improved Practices Retrieval Specialist	1/2	8,000	1/2	8,000	1/2	8,375	1½	24,375
Observer	1	10,000	1	10,000	1	10,000	3	30,000
Secretaries	3	16,000	3	16,500	3	14,400	3	46,900

Total State Staffs 219,550.00

c. Contracted Services Salaries:

(1) Central Staff

Independent Auditor	$ 9,000.00
Evaluator	12,000.00
Sifting Consultant	15,000.00
Planning Consultants	10,000.00
Training Consultants	9,000.00
Advisory Committee	4,000.00

Total 59,000.00

(2) State Contracted Services:

	Colorado	Utah	Washington	Total
	$	$	$	$
Information Center Services and Technical Assistance Consultants	20,000.00	20,000.00	20,000.00	$60,000.00
Local Site Consultants	10,000.00	9,000.00	46,400.00	65,400.00
Outside Local Evaluation Teams	---	---	8,850.00	8,850.00

Total 134,250.00

Grand Total Personnel Salaries (51) $498,000.00

2. Employee Benefits (Rate 10%)

Central Staff Total Salaries $85,200.00 x 10%	$ 8,520.00	
Colorado Staff-Total Salaries $79,000.00 x 10%	7,900.00	
Utah Staff-Total Salaries $60,500.00 x 10%	6,050.00	
Washington Staff-Total Salaries $80,050 x 10%	8,005.00	
Total Employee Benefits (charged as direct) (52)	($30,475.00)	$ 30,500.00

3. Travel-(State per diem varies, but $20.00 is the average. The amount budgeted per position is based on past experience in similar multi-state projects.)

a. Central Staff-Travel:

Project Director	$ 7,000.00	
Assistant Project Director	3,000.00	
Sifting Manager	2,000.00	
Inservice Coordinator	2,000.00	
Total		$ 14,000.00

b. State Staffs-Travel:

	Colorado	Utah	Wash.	Total by Position	
Diffusion Managers	$1,500	$1,500	$1,500	$ 4,500.00	
Field Coordinator	4,000	3,000	4,000	11,000.00	
Local Information Data Processors	150	---	150	300.00	
Needs Analysts	800	800	800	2,400.00	
Improved Practices Retrieval Specialist	250	250	200	700.00	
Observers	2,000	2,000	2,000	6,000.00	
Total by State	$8,700	$7,550	$8,650		24,900.00

c. Contracted Services-Travel:

(1) Central Staff

Independent Auditor	(Contract includes travel)	
Evaluator	$ 3,600.00	
Sifting Consultants	6,000.00	
Planning Consultants	3,000.00	
Training Consultants	4,000.00	
Advisory Committee	2,000.00	
Total		18,600.00

(2) State Contracted Services

	Colorado	Utah	Wash.	Totals	
Technical Assistance Consultants	$7,000	$7,000	$7,000	$21,000.00	
Local Site Consultants	3,500	3,000	---	6,500.00	
Outside Local Evaluation Teams	---	---	---	---	
Local Visitation Teams	4,000	4,000	4,000	12,000.00	
Total					39,500.00

Total Travel (53) $ 97,000.00

4.	Supplies and Materials			
	Central Staff		$ 4,000.00	
	Colorado		3,500.00	
	Utah		3,500.00	
	Washington		4,000.00	
	Total Supplies and Materials (54)			$ 15,000.00
5.	Communications			
	Central Staff		$ 2,500.00	
	Colorado		2,500.00	
	Utah		2,500.00	
	Washington		2,500.00	
	Total Communications (55)			$ 10,000.00
6.	Services			
	a. Duplicating and Reproduction:(56)			
	Central Staff	$7,000.00		
	Colorado	4,500.00		
	Utah	4,000.00		
	Washington	4,500.00	$20,000.00	
	b. Statistical:(57)			
	Central Staff	$1,550.00		
	Colorado	150.00		
	Utah	150.00		
	Washington	150.00	2,000.00	
	c. Testing:(58)			
	Central Staff	$ ---		
	Colorado	650.00		
	Utah	650.00		
	Washington	700.00	2,000.00	
	Total Services			$ 24.000.00
7.	Other			
	Graphics		$ 5,000.00	
	Contingency		20,000.00	
	Total-Other (59)			$ 25,000.00
8.	Equipment			
	Terminals - two each state @ $4,000.00		$24,000.00	
	Pocket Tape Recorders - 50 @ $60.00		3,000.00	
	Typewriters - 12 @ $500.00		6,000.00	
	Transcribers - four @ $500.00		2,000.00	
	Equipment to support Innovation ($1,000 per 12 sites)		12,000.00	
	One-half inch V.T.R. Unit for Training Programs (Micro-teaching, etc.)		3,000.00	
	Total Equipment (61)			$ 50.000.00
	Subtotal-Direct Costs			$749,500.00

Subtotal-Direct Costs (carried forward)	$749,500.00
B. INDIRECT COSTS - (20%)	
Note: The State of Colorado is currently preparing an indirect cost proposal to the Federal Government. The indicated rate will be 20 percent. This anticipated proposal for an indirect cost rate is to be submitted prior to June 30, 1971.	$149,900.00
C. TOTAL COSTS (Federal Support)	$899,400.00

CHAPTER FOUR

I. FINDINGS AND RECOMMENDATIONS

Project SPREAD spent two years in a planning phase with only a brief operational test of portions of the Model, Guidebook, and Formative Evaluation Plan. Because of this, it is difficult to support the findings of this Project with sufficient data. However, the findings do represent the best thinking of the Policy Board, the Project staff, including the State Representatives, the Project's external consultants, the Advisory Committee, and various members of the staff of the Colorado Department of Education who participated in the Project. All of these people, interacting with each other, trying out and testing ideas and concepts, seeking the reactions of other experts, reviewing the literature and research findings, and evaluating and revising their position have resulted in a set of findings that is supported by the vast majority of the people who have participated in the Project.

The findings of Project SPREAD are as follows:

1. State educational agencies are in a unique pivotal position to provide the diffusion linkage between small rural schools and all other agencies. Intermediate units or Boards of Cooperative Services are also in this unique linkage position. Regional Laboratories, Research and Development Centers, institutions of higher education, and other governmental agencies do not share this same unique diffusion position, but they do occupy an equally important position in research and development. State agencies and Boards of Cooperative Services are in this unique position for the following reasons:

   a. The state agencies who concentrate on the leadership and service role, as opposed to the regulatory role, have already established a helping diffusion relationship which can be capitalized on and improved.

   b. There is already an administrative relationship and responsibility between small rural schools and their state educational agencies which places both of them in partnership roles in cooperative efforts.

   c. Personnel in state educational agencies know the norms of the small rural school client systems, speak their language, and identify with their needs and aspirations to a greater degree than do personnel from other agencies.

   d. Practioners in small rural schools are more willing and better able to request cooperative effort services in developing improved practices from state educational agencies than from other agencies.

e. When small rural school districts choose to "go it alone" in developing improved practices, they still are anxious to have the backing of their state educational agency. Whereas, in these instances, the backing of other agencies is seldom requested.

2. Small rural schools have many weaknesses, but one of their strengths is that they can be an easily managed laboratory site, simply from the standpoint of logistics and the ease with which new practices may be installed. Long-term planning and phase-out efforts are usually not required in small schools because of their built-in flexibility.

3. The Formative Evaluation Plan for Project SPREAD, used in the elementary science curriculum inservice field test, worked well in providing data on which to base modification decisions about the Model, the Guidebook, and the Formative Evaluation Plan.

4. Everyone involved in a cooperative improvement effort requires training in order to perform their designated roles, even though they may have some previous experience in performing similar roles. The types of training required in rank order are:

   a. Theory and application of behavioral science
   b. Theory and application of organizational development
   c. Theory and application of knowledge utilization
   d. Theory and application of community oriented change process

5. Small rural schools can become much more effective in providing a quality education for all students through cooperative improvement efforts involving small rural schools, state educational agencies, and other agencies. Thus, there is an alternative to school district reorganization, namely, comprehensive cooperative improvement efforts.

The recommendations of Project SPREAD are as follows:

1. The Project SPREAD diffusion Model, the Guidebook entitled, "Cooperative Efforts to Improve Small Rural Schools," the Formative Evaluation Plan, and all the various diffusion procedures and strategies need to be tested in an operational setting over a long period of time, until all can be made to reliably work.

   A proposal to accomplish this was submitted to the U. S. Office of Education, but, unfortunately, was not funded. However, the commitment of the three participating states (Colorado, Utah, and Washington) is so strong that each state intends to carry out some of the activities proposed in that proposal on a minimal funding basis within their own states, and, hopefully, to continue to share the results of

these efforts with each other on an informal basis. At a later date, these states will again submit a revised version of the Project SPREAD proposal to the U. S. Commissioner of Education. A proposal will not only be revised, but will be enlarged to include the establishment of diffusion strategies and models for schools of all sizes. These three states are so strongly committed to the concept that diffusion of improved practices is so central to their operation and so necessary to the improvement of schools within their states that they will continue to work cooperatively and continue to seek funding for the support of the accomplishment of this end.

APPENDIX A

SCOPE OF WORK UNIT STATEMENTS

for the

Four-State Diffusion Project SPREAD

The contractor will complete the Scope of Work Units. The completion of each work unit will serve as a major evaluation milestone for advancing the Project toward the improvement of the diffusion function in each of the four participating state departments of education (Colorado, Utah, Wyoming, and Washington):

I. CREATING THE PROJECT

A. Create a Policy Board composed of the chief state school officers of the participating states to provide guidance and direction to the Project.

B. Describe the objectives and functions of the Policy Board.

C. Determine the By-laws and operating policies.

D. Specify the operational phase formative evaluation mechanism, and test it in the pilot phase.

E. Create an Advisory Committee at the state level and determine its composition and function.

F. Select a full-time Project Director who has had successful experience in planning and implementing diffusion strategies.

G. Select a field director who has had successful experience working with rural small schools and has a knowledge of diffusion strategies.

H. Appoint representatives as observers and technical advisors from each participating state department of education to work with the Project Director to develop a formalized plan for the establishment of the diffusion function in their respective states. They will observe Colorado's activities and assess the appropriateness of these activities as a basis upon which to develop a plan for the diffusion function in their respective states. These representatives should be full-time employees in the respective state departments of education who probably will be assigned to direct the improvement of the diffusion function in their respective state departments of education.

II. PLANNING THE PROJECT

A. Analyze the strengths and weaknesses of diffusion practices in the Colorado Department of Education. Emphasis will be

placed on the functions and authority (with respect to diffusion) of the various types of personnel. In addition, the impact of the Department's diffusion efforts and the communication between the state and the pilot schools will be stressed. Estimates of the operating costs involved in diffusion will be made.

III. PLANNING THE OPERATION OF THE PROJECT

A. Analyze and describe the organizational and structural arrangements needed to activate and maintain the state diffusion function and local diffusion efforts. This description will stress the major decisions reached and the process and procedures followed. The resources allocated will also be described. The description will include the criteria that were used to select the cooperative diffusion procedures for utilization in Project SPREAD.

B. Develop a guidebook from the "analysis activities" listed in II. A. and III. A. The guidebook will contain a related series of training programs and evaluation packages.

C. Analyze selected rural small schools to determine their uniqueness in regard to diffusion and determine what changes the application of the cooperative diffusion procedures, as contained in the guidebook, such uniqueness mandates.

D. Describe and document the selection of appropriate practices for testing diffusion strategies (cooperative diffusion procedures) in rural small schools. Emphasis will be placed on the criterion used to select appropriate practices and the performance specifications to be met during the tryout period in the selected pilot schools.

E. Describe and document the training of appropriate state department of education personnel to carry out the cooperative diffusion procedures, using the LEA selected educational practices. Stress should be placed on inservice training for specific tasks to be accomplished by each participant in the total diffusion strategy.

F. Describe and document the training of appropriate rural small school personnel to implement the cooperative diffusion procedures and to utilize the LEA selected educational practices.

G. Describe and document the procedures used to provide feedback on the effectiveness of the cooperative diffusion procedures at the receiver--school level to the diffusion function in the state department of education. Emphasis will be placed on describing of mechanisms used in reporting the Project's cooperative efforts and the self-corrective measures employed to keep the cooperative diffusion procedures on target.

IV. REPORTING THE PROJECT

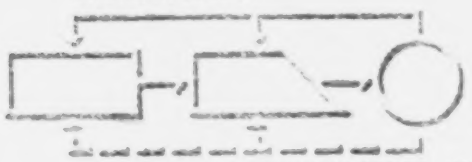
A. State representatives will provide written feedback to the Project Director as they monitor the work units described in this document. This written feedback will be submitted upon the completion of each major work unit designated by the Project Director, and it will stress the relevancy of the activities completed to their respective states.

B. At least three months prior to the end of the initial grant, each state representative will prepare a plan for recommending to the chief state school officer of his state the development of the diffusion function in his respective state department of education. These plans will stress the diffusion need, the existing diffusion potential, the function, the authority, the organizational and structural changes required in the state department of education, the alternative cooperative diffusion procedures available, the criteria to be used in selecting the cooperative diffusion procedures, the training requirements needed at local and state levels, the reporting procedures needed to accomplish feedback, and the operating costs involved.

C. The Project Director will provide quarterly progress reports on accomplishments, problems encountered, posed solutions, and work to be accomplished over the ensuing quarter, and a final report that describes and documents the key phases of the program, key decisions that were made, inputs, activities and products, and outputs for each phase, and estimated resource requirements for spreading the program to the other participating state departments of education.

APPENDIX B

INSGROUP, INC.



INSTRUCTIONAL SYSTEMS GROUP, INC.
Consulting on the design,
development and evaluation of
instructional systems

TECHNICAL REPORT

AN ANALYSIS OF DIFFUSION PRACTICES IN THE COLORADO DEPARTMENT OF EDUCATION

A report for Project "SPREAD," Four-State Diffusion Project

Contract: OE B/R 9-0608
Colorado 3-6112-42-15-15-07

Submitted by
INSGROUP, INC.
5855 Naples Plaza
Long Beach, Ca. 90803

April, 1970

NOTICE

The information in this document contains the principle findings and recommendations of a study of the Colorado Department of Education's dissemination and diffusion efforts for the school year 1969-70. The study was intensive but not exhaustive because of time and budgetary limitations. Certain of the findings, if taken out of context, would present an inaccurate picture of the total diffusion activities of the Colorado Department of Education.

PREFACE

(The following text was produced by Project SPREAD staff for the Colorado State Board of Education. It is provided as background to this study and as an illustration of the Department of Education's commitment to improve the small rural school.)

Resolution in Support of the Four-State Diffusion Project

1. In the past the Colorado State Board of Education has been seeking ways and means to improve the quality of educational programs in small rural schools, and during this period the Board has joined with certain local school districts in demonstrating and documenting these ways and means.

2. The implicit philosophy of such a partnership has always been that there is a need to find methods of developing more relevant and comprehensible learning opportunities in small schools.

3. The Colorado Department of Education was the initiating body of a proposal to the United States Office of Education, Bureau of Research, entitled Project SPREAD, State Programs Revitalizing Education and Diffusion. The State Departments of Education of Utah, Washington, and Wyoming joined in this proposal. The initial planning grant phase of this Project was funded by the U.S.O.E. on June 25, 1969.

4. The Project proposes to define, document, and field test the alternative roles of the State Education Agency in accelerating the diffusion of promising educational practices to small rural schools as a means of improving educational opportunity for youth in these schools.

5. The Colorado State Board of Education plans to acquire the cooperation of the appropriate members of the staff of the Colorado Department of Education and of the certain teacher education institutions of the State in carrying out the Project.

6. The Colorado State Board of Education plans to give assurance to the Project schools that accreditation requirements will not restrict the experimentation and research needed to successfully complete the Project under the following specified conditions:

   a. Local districts must exhibit proper planning.
   b. Those who are affected by the Project should be involved in the planning.
   c. There will be built-in assessment and evaluation procedures so that those participating do not perpetuate mistakes. The Board will continue to diffuse the positive findings of the Project geographically.

7. The Colorado State Board of Education considers itself morally and in fact, legally responsible for maintaining and, wherever possible, improving established standards of instruction; therefore, the staff of the Colorado Department of Education will be further charged with the responsibility for scrutinizing this Project for the purpose of maintaining an essential system of checks and balances.

8. The Colorado State Board of Education intends to remain in close contact with the operation and findings of the Four-State Diffusion Project SPREAD and, in fact, fully understands and accepts the responsibility for its operation in Colorado.

9. The Colorado State Board of Education, having been fully apprised of the philosophy and intentions of the proposal for the Four-State Diffusion Project and of Colorado's specific part in this program, welcomes the opportunity afforded for the continued exploration and continued leadership which Colorado has exerted on behalf of the improvement of small rural schools.

> "BE IT THEREFORE RESOLVED, that the Colorado State Board of Education gives strong endorsement and support to the Four-State Diffusion Project SPREAD and agrees to waive accreditation requirement under specified conditions to encourage experimentation in the Project schools. This Resolution is adopted on the 10th day of February 1970, and has been entered into the Minutes of the Board."

Assumptions About Schools, Innovation and Diffusion

(Adopted by Project SPREAD from drafts by Dr. Garth Sorenson, Project Evaluator, and modified in discussions with C.D.E. staff and other State observers.)

1. The schools are not as effective as they could be. They are not doing as good a job as might be expected in teaching children to read, to understand mathematics, etc. To admit this is not to imply that teachers and other school personnel are anything other than hard working, conscientious, and dedicated, but merely to recognize that for a variety of reasons most school people have been so busy just keeping the system going that they have not been able to devote the time and resources needed systematically and continuously to improve instructional procedures, administrative arrangements, counseling methods, etc.

2. It is possible to improve the effectiveness of the schools. A number of promising innovations have been developed in educational laboratories, Research and Development Centers, universities, and in the schools themselves. Mechanisms for identifying crucial weaknesses in particular schools and for replacing ineffective practices with newer ones which are demonstrably more effective, (and which are feasible within the resources available to a school) are also needed.

3. Innovation must be a continuous process in education. Because the needs of students and the community change, instructional procedures and administrative arrangements can never be perfected once and for all, but must be subject to continuous or at least periodic appraisal and revision.

4. Innovation is not an end in itself. It is rather a means to achieving more effective instruction, the goal being increased learning on the part of students. The process and role of innovation should be continuous and not related to any single effort to diffuse a given practice.

5. The ultimate purpose of the SPREAD Project is not to determine nor to change the educational objectives of a particular school, i.e., what the students learn--although it may be desirable to change the way those objectives are stated--but to make instruction more effective. Though educators may have opinions about desirable goals and may choose to attempt to influence community views, it is a practical fact--as well as a values proposition--that responsibility for determining the goals of the schools resides with the citizens of the community.

6. The specific task of the SPREAD Project is to eventually test the relative effectiveness of various intervention (diffusion) strategies to the end of contributing to the general knowledge about how to diffuse useful innovations.

7. The C.D.E.'s innovative role should be a continuing one, not coterminous with any particular project.

8. The C.D.E. should be concerned with a variety of innovations, the particular innovation to be introduced into any school or district to be determined by the needs of that school or district. (A need may be said to exist when a particular educational goal is not being achieved.)

9. No educator or educational organization existing today is using replicable procedures that will reliably work and cause improved school practice.

10. Diffusion efforts typically do not succeed as planned, however a diffusion effort can be made to eventually succeed, through a gradual process of successive approximation of the ultimate objective, guided by "corrective feedback" used as formative evaluation evidence to reshape the effort at several points in time over a process of months and years.

11. A written set of replicable procedures (that describe sets of specialized rules to modify sets of generalized rules) can be produced that will eventually insure diffusion of a given improved school practice into a given school setting. These procedures can be documented over a period of years as they become evident through a series of tryout/revision cycles in which reliable procedures are continued and refined and unreliable procedures are modified or abandoned.

AN ANALYSIS OF DIFFUSION PRACTICES IN THE COLORADO DEPARTMENT OF EDUCATION

PURPOSE

Project SPREAD's Scope of Work-Unit Statements E and F specify the following:

> "E. Analyze the strengths and weaknesses of diffusion practices in the Colorado Department of Education..."
>
> "F. Analyze and describe the organizational and structural arrangements needed to activate and maintain the diffusion function..."

This report, combined with the proposed models and procedures furnished by Project SPREAD staff is intended to fulfill these requirements. The findings reported herein, are those which were considered to be of benefit to each of Project SPREAD's participant states since this report is but the first step in a complex program to develop workable models that insure systematic improvements that reach the learners in small rural schools.

The purpose of this analysis is formative in nature, that is, the information gleaned from the analysis reported in this document is to be used to further strengthen the diffusion function and organize a dissemination and diffusion unit within the Colorado Department of Education and eventually in the cooperating states of Utah, Washington, and Wyoming. An intensive analysis of dissemination and diffusion has also been carried on by the Department Task Force formed in October, 1969 and currently concluding its own analysis. Over one hundred sixty-five man/days have been devoted to that effort to date. A final report of that study will be issued in late April, 1970 and should be read in parallel with this report.

Potential misunderstanding of the distinction between dissemination (not explicitly covered in this report) and diffusion (the function of the C.D.E. analyzed in this report) can be avoided by referring to the following definitions.

INNOVATION, a new or different concept, methodology, organization, or program that is systematically introduced into the classroom, school system, and/or the State. For the purpose of this study, an innovation was defined as a program perceived as new by the individual.

DISSEMINATION, the process of giving and receiving information about the operation and outcome of an educational activity in such a manner as to create an awareness, interest, and conviction regarding the value of the activity.

DIFFUSION, the process involving information consumption, social interaction, and behavioral change through which an innovation is incorporated into an individual, a group, or a system. The diffusion process includes the nine sub-processes of: dissemination, demonstration, implementation, invention, adoption, adoption modification, evaluation, institutionalization and sustaining support. Dissemination is spreading the word; diffusion is spreading the practice.

PROCEDURES

Two basic procedures were used to conduct this study. The first of these was a comparative analysis of responses to structured interview questions made by C.D.E. personnel and rural school practitioners.

The second procedure was to gather and analyze any information that described or implied a procedural model of a diffusion practice being carried out by C.D.E. personnel or being carried out in cooperation with other agencies. This was accomplished through interviews with key C.D.E. leadership staff and textual analysis of over 100 documents.

The data collection was conducted in three phases by an "information-gathering team" composed of seven C.D.E. personnel (who interviewed within the Department) and fifteen small rural district personnel (who interviewed the school practitioner group). In the first phase, a stratified random sample of 25% of a list of 124 board members, administrators and known innovative teachers from six, small rural school districts (selected at random as representative of those in the state) were asked ten questions pertinent to recent changes in school practices that may have been influenced by C.D.E. diffusion efforts. In addition, eleven questions were asked of 40 C.D.E. personnel selected at random. (See Appendix, Lists I-A and I-B for actual questions. A listing of interviewers may also be found in the Appendix.) The questions for the second phase of interviews were structured on a basis of the information

yielded by the first sets. In this cycle, 35% of the original total C.D.E. staff were interviewed more intensively while the majority of the same rural school population was again questioned in greater detail. (See Lists II-A and II-B in Appendix.)

The third and final round of questions were made to eight selected C.D.E. personnel. The field interviewers were also interviewed by telephone in an attempt to gather any unrecorded or newly uncovered information. (See List III-A in Appendix.)

All of the inputs from these phases as well as the gathered documentation were then analyzed and cross-checked for validity and consistancy.

Because the emphasis in the SPREAD project is on the analysis of diffusion into small rural schools only, a very small sample of all of the school districts of the State of Colorado were studied. It is estimated that the responses made by the practitioners in the schools represent approximately 6% of the schools of the state with those schools enrolling less than 10% of the total school population of the state.

A second factor which should be kept in mind while interpreting the findings is the established C.D.E. practice of building local leadership so that change is initiated by local leaders of the schools rather than playing a direct and active role in the change process. To the extent that this practice of building local leadership has been effective, the majority of the changes should predictably occur due to local leadership. This is substantially borne out in the findings.

FINDINGS

No summary can begin to be as valuable as the detailed study of actual responses to questionnaires and interviews. The reader is encouraged to pursue certain findings in greater detail in the records of Project SPREAD, where the original documents have been forwarded, as well as in the summaries of results found in the Appendix.

This section will be sub-divided into six categories as follows:

I. General Findings
II. Innovation in Colorado
III. Organizing for Diffusion
IV. Popular Diffusion Activities
V. Perceptions of Cost
VI. Perceptions of Effectiveness

I. General Findings

The C.D.E. has a well-documented record of accomplishment in diffusing improved school practices into small rural school districts, schools and classrooms. The two fundamental questions asked in this analysis were;

- Can the diffusion procedures now in use be further refined so as to improve the reliability with which an improved practice is diffused?
- Can the cost-effectiveness ratio of present C.D.E. diffusion practices be improved?

This analysis has clearly indicated that both questions may be answered in the positive.

Based upon their experience with over half of the nation's departments of education, INSGROUP consultants rank the Colorado State Department of Education among the top six to ten such departments. Questions directed to professional staff in other state departments of education support this conclusion.

Based on the number of students to be served in the districts of the state, the C.D.E. is understaffed when compared with other state departments of education. Considering this understaffed condition, the accomplishments of the Department are commendable.

As recently as May, 1969, a U.S.O.E. site-visit review team concluded that, as a whole, "C.D.E. services to local school districts are outstanding." A Department-conducted survey of 1963 indicates that the C.D.E. has a record of success in diffusion that extends back many years.

Seven relatively distinct diffusion practices were identified during this analysis. Although one may be regarded as leading into or overlapping another under certain circumstances, the following models were isolated for purposes of study and reporting.

A. Endorsement Model: The C.D.E. convinces the Local Educational Agency (LEA) Superintendent to endorse certain practices by providing him rational evidence and supporting his visits to other LEA's as an observer.
(Example: D.E.F.)

B. Targetted Communication Model: The C.D.E. learns of a general interest or felt need for a particular innovative practice; responds with a carefully prepared and timed communique relative to that practice then responds to any request for service generated by the communique. This is primarily a dissemination model.
(Example: C.D.E. Publications)

C. Lighthouse Model: The C.D.E. forms and supports a network of schools which have proven or potential capability for successfully implementing innovations; disseminates results and lends heavy support to those seek to follow example; e.g., seeks exemptions.
(Example: W.S.S.S.P., BOCES)

D. Legislative Model: The C.D.E. helps to shape and get passed mandatory and enabling legislation which encourages innovation; then assists in proposal development for response to legislation by LEA.
(Example: Title III, Budget Form)

E. Accountability Model: The C.D.E. assists the LEA in establishing performance objectives for accountability, then follows up with assistance in conducting formative evaluation for program development revisions.
(Example: Contract Accreditation, Program Planning and Budgeting)

F. In-service Training Model: This practice emphasizes the cooperative pre-service and in-service training efforts of the C.D.E., Higher Education Agencies, Research and Development Laboratories and Foundations. It relies, to a great extent, upon the "ripple" effect of a trained person passing on his knowledge and perceptions to others.
(Examples: D.U. Math Laboratory, Far West Regional Laboratory.)

G. Response Model: The C.D.E. answers an LEA service request, expands the problem through analysis, suggests solution practices and supports over a long period until fully implemented.
(Example: Rocky Mountain Area Project, San Luis Project)

Each of these; supplemented by six other recommended models will be analyzed in greater detail within the Conclusions section of this report.

II. Innovation in Colorado

The Appendix includes a list of 83 innovations that were reported by district personnel as being part of their school program, in response to a 1969 survey conducted by the Bureau of Education Research, University of Denver.[1] Since

1 A Survey of Innovative Educational Practices in the Public School Districts of Colorado, Bureau of Educational Research, University of Denver, January, 1970.

respondents were reacting to a prepared list, it should not be thought of as an exhaustive list of all innovative practices in existence in Colorado schools in 1969. This study yielded several additional innovative practices not explicitly mentioned in the University of Denver list. Because of inconsistancies in labeling innovations, it is impossible to determine when the same practice is labeled by two different names. Detailed descriptions of which districts have adopted which innovations in the past year is available in the C.D.E.-4 Form, Fall Report, 1969 Summary.

The fourteen "most utilized innovative programs" in the State of Colorado are listed below as reported in the previously cited University of Denver report. They are listed in their order of frequency with the first being used in 80% of the 129 school districts surveyed, while the last was reported in 42% of the same sample.

1. Parent-teacher conferences for reporting pupil progress
2. Reading Improvement courses (such as speed reading and remedial reading)
3. Paid Teacher Aides
4. Special Education
5. Student Aides
6. BSCS Biology
7. New Math Programs (other than SMSG and UICSM)
8. Individualized Reading
9. Teacher Visitation Program (schools outside district)
10. Electronic Language Laboratories
11. Work Study Programs
12. Elementary Librarians
13. Summer School (Remedial)
14. Team Teaching

In terms of this present study, the most important finding of the University of Denver report was the extremely low number of "innovations" being reported as occurring in small school districts (under 1,000 enrollment). It was found that, in a sample of 78.2% of all small schools in the state, only five innovations from a list of 99 were found in over 50% of the schools reporting. This contrasts significantly with the 52 out of 99 innovations found in the large districts (over 5,000 enrollment).

The present study revealed a definite contrast in the perceptions of C.D.E. personnel and district level personnel regarding the nature of what they classified as "innovations." The types of innovations mentioned by practitioners were almost entirely curricular and instructional and emphasized individualizing the curriculum and instructional procedures for the student. This held true across all the roles sampled within the small rural schools studied. In contrast personnel in the Colorado Department of Education were more likely to mention innovations that were related to planning, development, and evaluation of school programs rather than those that directly influenced the student. (See Lists I-A and I-B in Appendix.)

When asked to describe an improved practice that they are currently involved in, practitioners again mentioned primarily those practices that directly touch the life of the student.

When C.D.E. personnel were asked what improved school practices they are currently attempting to diffuse, approximately 2/3 of the respondents delayed so long in answering that it was the judgment of the interviewer that either they had no personal priority of practices well thought through in advance of the question or that the personal priorities of the staff members might be perceived as in conflict with the priorities of the Department, and the staff member was reluctant to voice his own priorities. The former tends to be confirmed by the fact that half of the respondents could not mention more than four innovations and one of these referred to a list before answering. Of the improved school practices mentioned, the majority of these would result in changing teacher's practices or administrative practices which only indirectly affect student activities. (See Lists I-A and I-B.)

As might be predicted, a greater proportion of practitioners than C.D.E. personnel indicated that they had a greater understanding of "individualized instruction" than of "comprehensive planning." (See Lists II-A and II-B.)

III. Organizing for Diffusion

Evidence of the interest in further organizing the C.D.E. for purposes of dissemination and diffusion comes from the establishment of a Dissemination and Diffusion Task Force. This unit is to serve as one of seven task force

study councils to further define and make recommendations on what is considered to be the seven major areas of educational problem and/or interest in the State of Colorado. Further evidence of the interest in refining the diffusion capability of the C.D.E. is the existence of Project SPREAD. SPREAD came into existence through the calculated efforts of a number of C.D.E. personnel who recognized the need for further refining and formalizing the diffusion function.

The Dissemination and Diffusion Task Force has devoted over 165 man/days to analyzing the existing diffusion function and making recommendations to the Administrative Council and Commissioner as to further dissemination and diffusion activities.

To further refine its dissemination and diffusion efforts as a coordinated department effort, the C.D.E. has committed itself to evolve a Dissemination/Diffusion Office out of this temporary Task Force which has been functioning on an ad hoc basis for the past several months. A possible model of the structure of such an office (based on the analysis described in this report) will be presented in the Conclusions and Recommendations section of this report.

The dissemination function and the diffusion function were rarely separated in documents reviewed and conversations noted. Indeed, the majority of those who were asked about diffusion efforts (and their relative success) answered in terms of dissemination of information rather than the diffusion of practices. Apparently the diffusion story had not been widely told in the Department since less than one-third of those responding mentioned a diffusion activity that was outside of his own realm of responsibility. In sixteen out of forty cases, the respondent was not able to promptly identify a single diffusion activity being carried out by the C.D.E. or previously having been carried out. The most typical number of diffusion efforts mentioned was three. However, over 12% of the respondents mentioned only a single diffusion activity (which in many cases was actually a dissemination activity).

Contrasting the responses in Lists I-A and I-B from the standpoint of organization, it is possible to conclude that practitioners are better able to request

and develop improved practices in cooperative efforts with the C.D.E. than is the C.D.E. organized to reliably make contacts and complete action programs with practitioners. List II-B indicates a practitioner interest in additional cooperative, organized diffusion programs relying not only on the C.D.E. but on other diffusion organizations as well.

The absence of complete agreement on communicated Department-wide priorities in diffusion is evident from the analysis of responses to Question 6 in List II-A. This is seen as making it difficult for the individual in the C.D.E. to allocate his time in light of Department priorities, or organize in order to maximize the impact on existing diffusion efforts having high priority in the Department.

IV. Popular Diffusion Activities

A preponderant belief in workshop-like activities on the part of C.D.E. personnel was clearly indicated by List I-A responses. These answers also associate successful diffusion efforts with a specific kind of person; one who is a knowledgeable, personable, charismatic, socially-acceptable, experienced, individual with a proven record of accomplishment in the area of diffusion.

Small rural school people, on the other hand, tend to associate successful diffusion practices with a group of working teachers and administrators feeling their way and finding their way in a gradual, problem-solving process over a long period of time, creating solutions to areas of student need. In as many cases as not, the activities in the field which were perceived by small rural school personnel to be most successful did not directly involve any intervention on the part of C.D.E. personnel. They are, however, anxious to have the backing of the C.D.E. if some step in their process (of evolving local solutions) is challenged and must be justified.

V. Perceptions of Costs

The concept of relative costs of alternate diffusion activities did not occur spontaneously in response to Lists I-A and I-B. When asked directly in List II-A, the majority of the respondents had difficulty predicting most standard cost factors and were relatively unprepared to proportion out costs in the total diffusion effort.

Personnel time, the largest single cost, was not routinely mentioned. The cost factor most mentioned was the production of publications and materials, the software to be utilized, a relatively minor cost. Analysis of responses to List II-B indicate that practitioners in small rural schools are very sensitive to the time that the development and implementation of improved practices takes away from managing the district, school or classroom. One could conclude that the practitioners are more sensitive to the cost of diffusion than the C.D.E. personnel with notable exceptions. The statements in List II-A indicate a tendency to underestimate the cost of diffusion efforts on the part of C.D.E. personnel.

VI. Perceptions of Effectiveness

When C.D.E. personnel were asked the extent to which the diffusion they had mentioned had been effective, 31 of the 40 responded that it had worked well. However, less than half could site any evidence for believing that the diffusion had worked well when asked a direct question about the possible existence of such evidence. Most respondents described only a single critical factor that accounted for success, rather than multiple critical factors. Approximately 33% of the respondents were unable to mention a single diffusion effort that had failed, or had not yet come about, or were convinced there were no failures. It is apparent both from documentation, interviews, and questionnaires that thorough knowledge of the relative effectiveness of various diffusion efforts is <u>not</u> commonplace. Indeed the need to evaluate and follow-up for purposes of evaluation was routinely mentioned by all concerned. Additionally, the general pattern of response in the C.D.E. was relative to the <u>quantity</u> or number of districts and schools adopting a given practice, whereas the criteria from the viewpoint of the practitioners is the <u>quality</u> of the influence on the student. (See List I-A)

Practitioners often proposed that they would use C.D.E. staff time assisting local personnel to evaluate the effectiveness of various changes and practices they had recently instituted. This was found to contrast with the fact that they were not necessarily anxious to have the C.D.E. cooperate with them in the modification of the practice. (See List II-B)

List III-A sheds further light on the issue of perceived effectiveness. When the answers of C.D.E. staff judged to be the most experienced and successful in diffusion are contrasted with an equal number of C.D.E. staff with less of a proven record of effectiveness, an obvious difference relates to the larger number of roles those persons cited as roles they played as members of the C.D.E. staff. The more effective diffusors play more roles than the less effective. Strangely none of the respondents to List III-A cited their role as diffusor/change agent as their primary role in the Department, in fact, none mentioned the diffusor role until after he had mentioned at least four others.

In contrast to answers to previous lists, in which it was noted certain diffusion efforts had not been effective; only once in 24 responses to role descriptions did one of the C.D.E. staff self-rate himself as below-average in effectiveness. Respondents are either unaware of the relative effectiveness with which they play their several roles or are reluctant to discuss it candidly with peers.

In discussing factors tending to facilitate and constrain their efforts in diffusion, the staff judged more effective perceived more facilitating than constraining forces within the C.D.E. This in contrast with an equal number of staff (judged not-as-effective) who noted more perceived constraining forces within the C.D.E.

When a comparision was made between the planning skills of the more-effective C.D.E. staff and the planning skills of the less-effective staff, results favored the more-effective group. More effective diffusors tend to be more effective planners (or vice-versa).

The most impressive single finding in the third phase of interviewing in the C.D.E. related to the relative inability of two staff members most knowledgeable about diffusion to reach agreement as to those C.D.E. staff most effective in diffusion efforts when prompted to by the analysis team. Agreement could only be reached on four out of 20 staff. Objective evidence as the effectiveness of most individuals in diffusing improved school practices does not currently exist in the C.D.E.

Reviewing all the information collected about the type(s) of influence being used by C.D.E. staff to further the diffusion of given practices, it has been noted that C.D.E. staff use limited types of influence. Analyzed against Bennis' summary of potential types of influence, (pps 167-9, Bennis, W. Changing Organizations, New York, McGraw-Hill, 1966), it is noted that most staff tend to use only "coercive," "expert" or "legitimate" influence and rarely in combination, where as "referent" and "value" influence are viewed by most diffusion scholars as more powerful and pervasive.

CONCLUSIONS AND RECOMMENDATIONS

Concluding Summary

Figure 1 summarizes, in very general terms, some of the major characteristics of the diffusion process as it was described and observed in the Colorado Department of Education. The procedures used in the past are expressed in abbreviated form on the left and should be read as comparative statements with their opposites on the right (indicators of an "ideal" diffusion effort). The C.D.E. is now somewhere between these two on most items and organizing to approach the "ideal" in specific instances. There is no implied emphasis intended in the order of presentation.

It is hoped that Figure 1, (or some adaptation of it), will come to be used as a self-evaluation checklist, to be used periodically in the future by the C.D.E. to rate its progress in refining it's diffusion efforts.

Recommended Organizational and Functional Relationships

To avoid the isolated diffusion effort that has had a poor record in the research literature, a "total" diffusion effort is proposed. Figure 2 describes the basic elements of a typical S.D.E. diffusion situation and implies the multiple linkages that must exist if all the forces for improvement of school practices are to be coordinated into a high-potential diffusion effort. Linking agreements as to roles and responsibility must exist between all the elements in Figure 2. Among the more obvious are the representation of the elements on the Advisory Board to the Dissemination/Diffusion Unit, the coordinated activity between the Field units and other S.D.E. operations and constant coordination of S.D.E. diffusion efforts with the efforts of other agencies with a diffusion function. Central to the liaison to other diffusion agencies is the innovation information

FIGURE 1

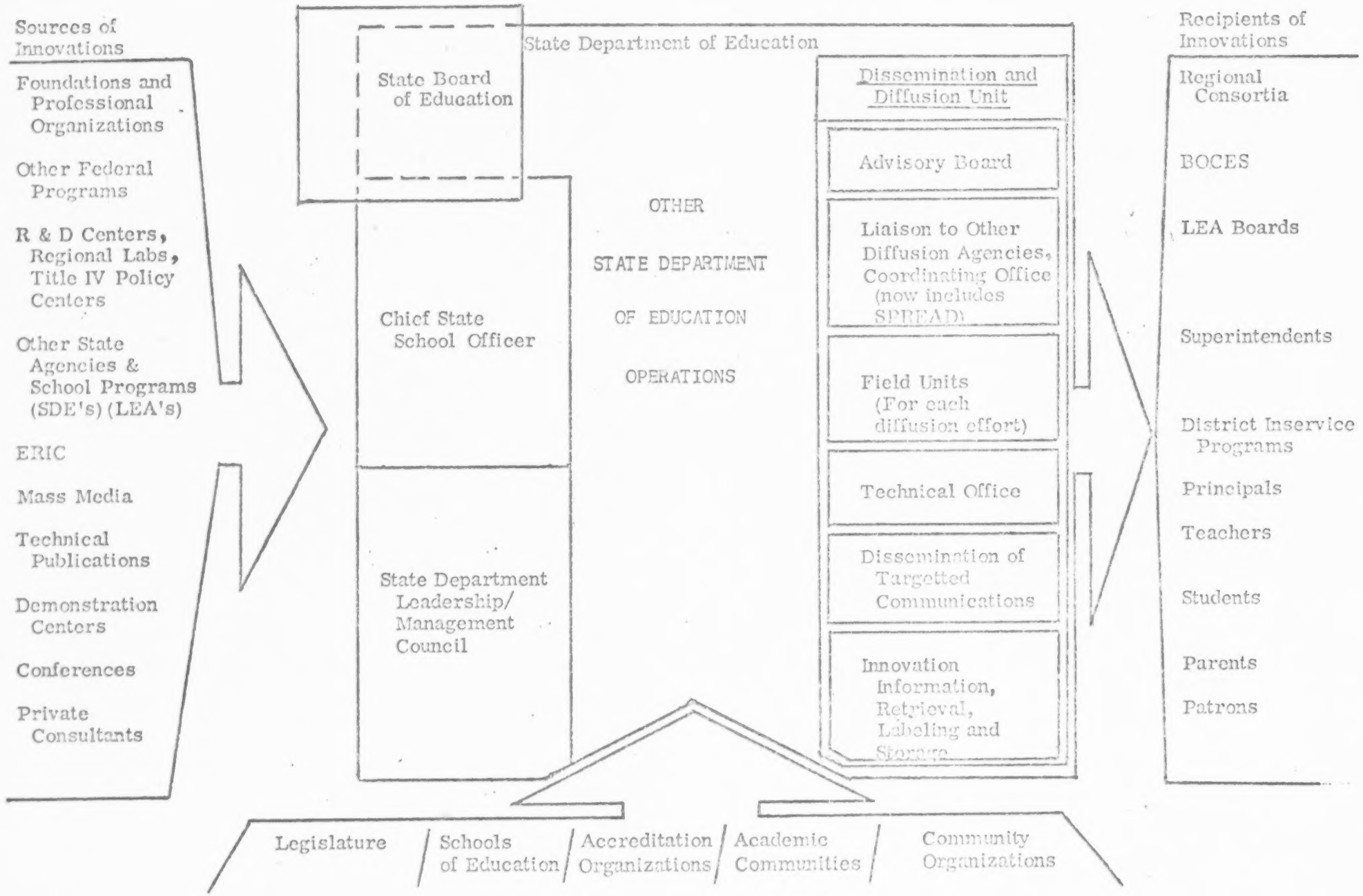
Summary of Previous and Potential Diffusion Activity

Note: Read as; "The C.D.E. diffusion effort tends to be...(read item in left column) more often than...(read opposite item in right column)."

WHAT HAS BEEN	WHAT MIGHT BE
• Based on personal background of C.D.E. staff	• Based on retreived technical information
• Directed at "schools of convenience"	• Targetted on high potential "open" schools and districts and subsequently spread to lower-potential schools
• Coincidental based on personal priorities	• Based on systematically determined statewide priorities
• An isolated C.D.E. effort	• Collaborative with other diffusion agencies
• Sporadic, one-shot and fragmented	• Coordinated, complete and comprehensive
• Emphasizing planning and administrative practices	• Emphasizing "improving learning environment" (curricular and instructional) changes more directly affecting learners
• Prescriptive	• Diagnostic and subsequently prescriptive
• Intuitive	• Documented and visible
• Simplistic, conventional and standard approaches	• Imaginative, thorough and impactful
• Superimposed on existing systems	• Creating "temporary systems" for experimentation
• Responsive to service requests only	• Programmatic diffusion from high potential to lower-potential districts/ classrooms
• Process-oriented	• Product-oriented
• Dissemination of publications and public information	• Diffusion of improved practices

FIGURE 2

Key Functional Relationships in Total Diffusion Efforts



center and the coordination of the targetted communication emanating from the Dissemination/Diffusion Unit, (D/DU) and those emanating from other sources within and from outside the S.D.E. Within the D/DU, closest relationships will need to exist between the Coordination Office which is scheduling next steps by all concerned, the Technical Office which is evaluating the effect of recent steps and the Field Units which are actually carrying out the daily intervention to further the efforts to evolve improved school practices for recipient classrooms, schools, districts, Boards of Cooperative Services. The single most important relationship will be that between the recipients of the innovative practices and the D/D Unit, whereby the requests of information and service are processed and agreements are reached between all concerned as to necessary next steps in light of recent "corrective feedback."

In summary, the D/D Unit might be conceived of as primarily a linking organization bringing to bear the various resources of related elements of the situation.

Recommended Additional Models

Seven models describing some of the more popular current C.D.E. diffusion strategies were presented in the Findings section. It is recommended that C.D.E. personnel consider elements of the following six additional models in terms of their potential for use in the future. Just as with the previous seven models, it is easy to point out overlap and similarities in those to follow. The purpose here is to point out the dominant characteristic of a strategy so that it can eventually be formalized into a set of replicable procedures to be systematically used by S.D.E. staff and others cooperating in diffusion efforts on appropriate future occasions.

A. Successive Approximation Model: S.D.E. cooperatively assesses need for innovations in recipient districts; ranks available innovations according to appropriateness to need; selected LEA's form field units to adopt or adapt solutions to negotiated objectives; diffusion efforts modified routinely through "corrective feedback," gradually approximating the improved conditions sought; resources from many agencies coordinated.

B. Selective Leadership Model: The S.D.E. actively seeks to influence LEA boards in their selection, training and retention of key administrative

personnel (particularly Superintendent and Assistant Superintendents); based upon the proven leadership skills and potential for successful diffusion actions.

C. Student Innovator Model: Involving student representatives in the diffusion process through such means as "internships" within the S.D.E., traveling seminars for rural youth and young people assuming teaching role (a la Postman) during junior and senior years.

D. SEA Contractor Model: SEA establishes a turnkey performance contract with an outside agency (private or non-profit) to assist LEA or groups of LEA's to determine needs, modify practices, etc.

E. LEA Contractor Model: SEA assists boards and superintendents in writing turnkey performance contracts between the LEA and outside services for "turnkey" assistance resulting in trained school staff and implemented innovations.

F. Complete Turnover Model: SEA or LEA contracts with outside agency for total package installation and maintenance for selected portions of school program.

Figure 3 analyzes the previous seven models plus the additional six in terms of:

- six steps in the diffusion process conceptualized by Havelock,[2]
- the type(s) of influence (suggested by Bennis) affecting the potential success of any model
- cost levels of each model relative to other models (including additional dollars, staff time, recipient time, learner time)
- observed or predicted effectiveness (based on assumptions in Preface).

Recommended Intervention Strategies

Figure 4 lists an incomplete set of intervention strategies commonly used by diffusion personnel, summarized from the works of Bennis, Havelock and others.

Analysis of C.D.E. diffusion efforts of the past indicated the use of several of these, however, rarely have the various "change-agent" strategies been used in combinations and sequences in a comprehensive, thorough major strategy (with contingency strategies organized to be used when some aspect of the major strategy proves ineffective in a given instance).

2 Havelock, R. A Comparative Study of the Literature on the Dissemination and Utilization of Scientific Knowledge. HEW/OE/Bureau of Research Project 7-0028, ERIC #ED-029171, July, 1969.

FIGURE 3

Current Small Rural School Diffusion Models

	Phases of the Diffusion Process – Havelock						Type of Influence (Bennis)	Cost-Effectiveness	
	Building Relationship	Diagnosing Problem	Retrieving Knowledge	Selecting the Innovation	Gaining Acceptance	Stabilizing & Maintaining		Relative Cost Levels	Relative Effectiveness Levels
Endorsement Model	exists	SEA alone	SEA and other diffusion agencies	adopted adapted	depends on type of leader	poor, if leader mobile	expert value	Low	High locally Low regionally
Targetted Communication Model	dialogue built	SEA and LEA jointly	SEA and other diffusion agencies	locally adapted	generally good	slow	legitimate expert	Medium	Medium
Lighthouse Model	exists	primarily LEA's	SEA and others	problem-solving	locally good	locally good, if team effort	referent legitimate	High	Medium
Legislative Model	strained	SEA	SEA and other agencies	fiat	while incentives exist	poor	coercive	Medium	Gradually upward to high
Accountability Model	exists or incentives	LEA primarily	both	locally adapted or invented	good	good	expert value	High	Medium
Inservice Training Model	dialogue built	shared	higher education and other agencies	adopted	slow, if at all	slow	expert legitimate	High	Low initially
Response Model	improves with dialogue	shared	SEA	adapted	good, if continued	good, it continued	value	Medium	Low initially

FIGURE 3a

Recommended Small Rural School Diffusion Models

	Phases of the Diffusion Process - Havelock						Type of Influence (Bennis)	Cost-Effectiveness	
	Building Relationship	Diagnosing Problem	Retrieving Knowledge	Selecting the Innovation	Gaining Acceptance	Stabilizing & Maintaining		Relative Cost Levels	Relative Effectiveness Levels
Successive Approximation Model	exists	SEA's and LEA's	National and SEA's	invented	eventually good	eventually good	expert legitimate	Medium	High
Selective Leadership Model	poor	SEA	SEA	locally adapted	poor, eventually good	good	coercive legitimate	Medium	Medium
Student Innovator Model	good	LEA	other LEA's	adopted and invented	good to excellent	excellent after enough cycles	referent value	Medium	High
SEA Contractor Model	incentives required	Agency X and LEA	other diffusion agencies	adopted adapted	good, while incentives exist	high probability	coercive expert	High	High, eventually
LEA Contractor Model	not an issue	LEA's	National	adapted	planned good	good	expert legitimate	High	High
Complete Turnover Model	not an issue	Regional Labs and SEA's	National, Regional and SEA's	adapted	planned good	good	expert	High	High

FIGURE 4

Possible Intervention Strategies
To Be Combined into A Diffusion Model

1. Action Research
2. Authentic Feedback
3. Brainstorming and Delphi Technique
4. Case Study Conferences
5. Change Agent; External and Internal
6. Collaborative Action Inquiry
7. Confrontation
8. Consultation
9. Derivation Conference
10. Dialogue, Decision, Action
11. Diffusion, Natural
12. Experimental Demonstration
13. Fait Accompli
14. Financial Support
15. Force Field Analysis
16. Goal Clarification
17. Group Observation/Process Analysis
18. Human Relations Laboratory
19. Inter-organizational Visiting
20. Leadership Change
21. Legislated Change
22. Linkage
23. Mass Media Dissemination
24. Multiple Media Approaches
25. Network Building
26. Operations Research
27. Opinion Leadership Utilization
28. Organizational Development
29. Overlapping Groups
30. Packaging for Diffusion
31. Planning, Programming, Budgeting (PPBS)
32. Prestige Suggestion
33. Problem Solving
34. Product Development
35. R & D Unit
36. R, D, & D
37. Reflection
38. Research Evaluation
39. Revitalization
40. Role Playing
41. Rotation of Roles
42. Sensitivity Training Group
43. Spirit of Inquiry
44. Successive Approximation
45. Survey Feedback
46. System Self-Renewal
47. Systems Analysis and Development
48. Temporary Systems
49. Training, Inservice and Pre-service
50. Translation
51. User Need Surveys

It is strongly recommended that more comprehensive sets of strategies be incorporated into diffusion efforts in the future and that inservice training be organized to increase the number of C.D.E. staff competent to use some or all of the strategies.

Recommendations to Project SPREAD Participants

The previous sets of recommendations have followed logically from the findings of the analysis of the diffusion activities of the Colorado Department of Education with small rural schools in 1969-70. When compared with the report of the Dissemination and Diffusion Task Force, they may be of value in reorganizing selected aspects of the dissemination and diffusion operations of the C.D.E.

Project SPREAD has been, and will continue to be supportive of the efforts of the C.D.E. to strengthen its dissemination and diffusion capability. To that end, the following recommendations are made to the Policy Board, Director, Staff and State Observers of Project SPREAD:

- To the extent possible, similar analyses of the other three S.D.E. diffusion efforts should be conducted to note any uniquenesses of the C.D.E. or any of the other States.
- Develop and conduct inservice training for selected S.D.E. staff with heavy responsibilities for parts of diffusion efforts now under way or planned.
- Reanalyze the Fall Report - C.D.E. Form 4, 1969 data in terms of small rural schools with unusual innovation records compared with the Report of Innovative Education Practices, thus highlighting the existence of "lighthouse" school programs.
- Assist in devising diffusion cost and effectiveness measurement instruments in order to begin to standardize those instruments in terms of reliability and validity--preparing for the operational test of various diffusion models in selected small rural schools.

APPENDIX C

PROJECT SPREAD ASSUMPTIONS

1. The rural schools are not as effective as they could be in providing quality education for all of the students.
2. It is possible for rural schools to improve their effectiveness.
3. Small rural schools can become more effective by sensing needs, eliminating some practices and not replacing others--as well as adopting or adapting new practices.
4. Latent conflict exists in rural communities...but little significant educational planning has dealt with this reality; an opportunity still exists to resolve latent rural conflict in positive ways...and research evidence is available for planning constructive management of this condition.
5. Because of the nature of rural communities and decision processes, information about improved school practices and research findings alone have little influence in local decisions about improved school practices.
6. Useful and lasting changes occur when the change process involves those who are most affected in ways designed to reduce dependence upon "outside" persons or agencies...and residents of rural communities can be expected to participate in such educational change activities.
7. Responsibility for determining the goals of the schools resides with the citizens of the community. Professional educators have a responsibility to assist citizens in considering a wide range of goals.
8. School districts and schools should be concerned with the improvement of the quality of learning, and a variety of the particular improved practices to be introduced into any school or district should be determined by the needs of that school or district to improve the quality of learning.
9. Improvements in school practice that are minor adjustments in standard practice are not worth the investment. Basic changes that directly affect students are to be given preference.
10. Innovation must be a continuous process in education and not related to any single effort to adopt a given practice.
11. Changes in school practices that produce minor changes (new textbook) require less diffusion effort than changes that produce major massive changes (individualized instruction, computer assisted instruction).
12. No educator or educational organization existing today is using replicable diffusion procedures that will reliably work and result in improved school practices in rural schools. Why and how change occurs in school practice needs to be examined much more empirically and systematically. Change processes in a social system whose objectives are determined by many people at many jurisdictional levels, and decisions are made on nonvisible criteria other than the quality of the school program, need careful examination.
13. Diffusion efforts typically do not succeed as planned, however, a diffusion effort can be made to eventually succeed through a gradual

process of successive approximation of the ultimate objective, guided by "corrective feedback."

14. A written set of replicable procedures can be produced that will eventually insure diffusion of a given improved school practice into a given school setting. These procedures must be consistent with research evidence from the behavioral sciences.
15. Strong leadership at the intermediate level or state agency is required to provide impetus for continued linkage, legitimization and support of the processes of need assessment, program improvement, and formative evaluation.
16. The role of the State Education Agency (SEA) is to assist in improving the effectiveness of schools and it should be a continuing one, designed to develop a self-renewing capacity in rural schools.
17. State educational agency staffs are administratively and professionally in a position to help rural school districts to effect educational change...but they now do not possess adequate skills, experiences, and resources to assist rural change process activities.
18. To provide quality education for students in small rural schools, it is essential that improved practices be implemented and this can best be accomplished through a cooperative effort between the local agency and the SEA.
19. Project SPREAD can eventually test the relative effectiveness of diffusion strategies to the end of contributing to the knowledge base about cooperative efforts to diffuse improved practices.

APPENDIX D

FORMATIVE EVALUATION PLAN FOR PROJECT SPREAD

A. Overview

The purpose of SPREAD is to develop and partially test a set of procedures (plan or model) which, if adopted, will enable small rural schools of Colorado, Utah, and Washington to evaluate and improve their operations continuously. That is to say, decision-makers and educators in these districts, while following the SPREAD procedures will periodically reexamine their instructional program goals to see if they are still consistent with current priorities set by the community; they will monitor new and more effective instructional and administrative procedures which have been devised to accomplish those goals; they will replace some procedures, and gradually correct and improve others in order to make the school system as a whole increasingly successful and efficient.

Stated as above, SPREAD's goals are very ambitious, of course, and will require more time, money, trained personnel, and yet-to-be-developed improvement technology than will be available during the Project's five years. What the Project expects to accomplish during the five years is to develop a prototype--a preliminary but workable set of procedures--and to demonstrate that they are useful and feasible, and that they contribute enough to the increased success and efficiency of the educational systems they are designed to serve to warrant their continued support and development by local and state agencies.

More specifically, the SPREAD procedures (model or plan) describe cooperative efforts in the states of Colorado, Utah, and Washington in which selected personnel of the State Department of Education, educators in local school districts, interested citizens in rural communities and staff from other educational agencies will form a continuing diffusion organization in order to generate and pass on information, knowledge, and coaching about actions required to improve the schools, and to assist them to take and verify the effectiveness of the actions.

In previous documents, participants in the SPREAD Project have referred to this cooperative effort as a communications network--a network of carefully defined roles and responsibilities, positions, or jobs. A person or group occupying a given position or role performs certain prescribed tasks in the process of gathering and transmitting specified items of information to holders of certain other positions in the network, and eventually to the decision-makers and educators in the community. It can also be thought of as a network of information, influence, invention, and incentives.

Two types of information will be gathered and transmitted:

a. Information relating to needed school practices in Colorado, Utah, and Washington and in other parts of the country.

b. Information relating to how well the diffusion organization is operating and what needs to be done to make it operate better.

Some of the information about effective school practices is already being gathered by local and state agencies. Other information will be generated by the procedures to be described below.

When the diffusion organization (communications network) is operating properly, the decision makers in each of the participating school districts will be provided with a flow of information in the form of written reports which will enable them periodically to:

1. Reassess the current educational needs of their district as viewed by interested citizens, e.g., needs reflected by poor reading performance on the part of elementary students, or by a high dropout ratio, or by inability of high school graduates to perform well in college, the military, vocational training programs, or in entry level jobs, etc.

2. Review information summaries about improved educational practices across the country (some of which may be in the immediate area)--practices designed to solve particular kinds of educational problems; information would be included about such factors as the skills of personnel requirement of a particular instructional program, costs, efficiency of learning, etc.

3. Compare existing school practices in their district with the already available alternatives described above.

4. Select alternatives to replace ineffective existing programs or practices, and then to reallocate resources, do the necessary training, etc., to install the new program(s) and gradually make it (them) work through a series of tryouts and revisions.

5. Monitor the new program(s) or practice(s) to make certain they are in fact being properly used, or if necessary, that they have been modified by staff to fit the particular circumstances of the school or district.

6. Gather continuing data--information about pupil performance in particular--which will enable school officials and others to know how effectively each new (and old) program is working, i.e., whether (or not) pupils are learning the habits, knowledge, and skills the program was designed to teach, without at the same time learning to hate the subject being taught, themselves, the program of studies, the teacher, or school in general.

7. Develop preliminary working plans for estimating costs of producing learning in students by means of new instructional programs in comparison with costs of existing programs. In this Project, cost/effectiveness is defined as costs of producing units of learning divided by units of learning produced--since the task of developing sound cost/effectiveness procedures is a major project in itself, the SPREAD effort will be limited to developing a prototype plan. The plan will include:

   - o A set of Assumptions about costs, effectiveness, and the relationship between the two.
   - o A list of constraints within which a cost/effectiveness program must operate.

- o A list of elements of a plan to do cost/effectiveness analysis.
- o A list of changes in current school practices in small rural schools required to implement cost/effectiveness.
- o Description of the characteristics of sites to be used in developing a cost/effectiveness procedure.
- o A list of specifications of the types of training required.
- o A summary report on a pilot analysis of cost/effectiveness.

B. The Guidebook

The SPREAD procedures (model or plan) will be described and to a large extent be operationally defined in a collection of documents called a Guidebook. The Guidebook will:

1. Present the rationale for the cooperative diffusion effort, the sources of that rationale, related studies, belay misconceptions, answer general questions, etc.
2. Specify the activities, procedure, or operations to be performed by persons or groups holding each of the positions in the cooperative effort, including those persons whose task it will be to make the effort increasingly effective.
3. Include a number of "training packages," one for each position in the organization.
4. Describe the "formative evaluation" or "corrective feedback" procedures for:
   a. Checking on and improving the success and efficiency of each of the persons or groups occupying each of the positions, thereby gradually improving the effectiveness of the cooperative effort as a whole.
   b. Making the Guidebook intelligible to general readers.
   c. Periodically revising the SPREAD Project itself.

In brief, the formative evaluation strategy is as follows: Each of the above, e.g., each training package will be first written in preliminary form, then tried in the field, then evaluated, then revised, and the cycle will be repeated until it has been demonstrated that a given portion of the Guidebook is effective with members of the cooperative effort for whom it was designed. Beyond that point, revisions will continue to be made, but less frequently.

C. The Training Packages

Each training package will consist of the following four components:

1. Information Materials.

   a. A brief overview of the entire cooperative diffusion effort.

   b. A statement of the importance to the Project as a whole of the particular responsibility, role, or position for which a given training package has been designed--why that position is an essential step in a longer process.

      (1) Job descriptions will be developed in the system so the duties to be performed will be demonstrably effective, and

      (2) Repeatable

   c. Definitions of certain technical concepts which must be understood as general guidelines by all members of the diffusion organization in order to facilitate communication, etc., such terms as "successive approximation," "corrective feedback," "formative evaluation," "revision decisions," etc.

   d. A summary of the actual duties to be performed by a person occupying a given position or a member of a work group.

   e. A work schedule, saying what tasks must be performed when--what information will be gathered, from what sources, on what time schedule, in what form it will be reported, to whom, with what effect, and when. The work schedule will be used both in training a candidate for a particular position, and later in guiding his activities on the job.

   f. A work record* to be kept and used by each person or member of a group occupying a given position, and submitted weekly (?) showing what was done, the time required, and current estimated degree of success. For some positions the work record will show that information was gathered and transmitted. In other instances, where the communication is assigned the task of persuading the recipient of this communication to take some action, the work report will provide for follow-up steps to find out if the proposed action was indeed taken, and remedial steps to be taken if it is determined that the task was not completed.

2. "Criterion-Referenced" Tests. These will consist of standardized observational or examination procedures sometimes in the form of work samples which will enable the trainer to find out what a particular candidate for a given position knows about the

*Footnote: The formative evaluation strategy calls for a number of weekly or monthly reports of which the work record is one example. It is assumed that for the most part these reports will consist mainly of checklists and while they will be comprehensive, they will require little time to fill in.

requirements of that position before training at particular points during training, at completion of training, and on the job. The examinations will test the candidate's knowledge of the basic guidelines, concepts, and detailed procedures relating to his job at three levels of understanding:

a. His ability to tell--to define or describe verbally.

b. His ability to observe--to differentiate between correct and incorrect examples, to find new examples of consistent actions in his daily experience.

c. His ability to do--to apply the guidelines and concepts to his job, actually to carry out specified operations and appropriate contingency plans.

For training, something in the way of performance tests will be needed. For on-the-job follow-up, work reports will be used.

3. Instructional Procedures. These will consist of specifications of how and when the informational materials and tests will be used, and of additional learning exercises to be either self-administered, or administered by the trainer.

a. The trainer will tape record his training sessions and this tape, or a copy of it, will become a part of the record and will go to the person responsible for initiating formative evaluation, a monitor or observer.

b. The trainer will follow a guide sheet which will prescribe the following training sequence: Pretest; presentation of informational material, to be read by candidate prior to training sessions; a check test; trainer-guided instruction for remedying gaps in a candidate's knowledge and misconceptions, as revealed by check test; retest; further instruction where required; retest; follow-up reports from the job and additional instruction and retesting, if necessary.

c. The trainer will keep a log in which he will report the time required for the various training steps; any difficulties encountered, such as unclear instructions; unexpected reactions from trainees such as emotional outbursts, verbal attack; any improvisations he needed to make, noting which were useful. The trainer will also present his suggestions for improving the materials or the training materials.

4. Formative Evaluation Materials. These will include some of the already mentioned materials, e.g., the examinations and work reports, and in addition, they will include evaluation forms to be completed by each candidate. The candidate will answer the

following questions about each part of the training process, and each responsibility, operation, procedure of the job itself:

a. Was it interesting? How could it be made more interesting?

b. At what points was it difficult? How might it be made less so?

c. Were directions clear? How might they be improved?

d. What changes in the process would result in the saving of time or an increase in satisfaction or efficiency?

D. The Revision Process

1. Training Packages. After a training session or field tryout, the monitor or observer will:

a. Administer the candidates' evaluation forms.

b. Collect from the trainer the trainer's tape(s) and trainer's log.

c. Listen to and "code" the training tape. He will use a prepared coding sheet which will parallel the trainer's guide sheet. Both the trainer's guide sheet and the coding sheet will list the steps the trainer is expected to follow, the questions he is to ask, acceptable answers, concepts he is to teach, etc. As the monitor listens to the tape, he will make a series of tab marks on his coding sheet, one for each of the trainer's verbalizations placing that tab mark in the appropriate space on the coding sheet to show whether it was the verbalization called for by the instructional plan, or an improvisation.

d. After the coding has been completed, the monitor will then fill out the monitor's report form, which will show the number, percentage and kind of errors which occurred during training, e.g., by kind of errors is meant such things as improvisations inconsistent with the guidelines, failure to complete all steps, changing the sequence of steps, etc. The monitor's report will list his own suggestions for improvements to be made in a training procedure, and will summarize suggestions made on trainer's log and candidate's evaluation forms. He will also suggest improvements in his monitoring procedure.

e. The monitor will participate with project director, trainer, and the project evaluator in an evaluation or "debriefing" session in which the summary of reports will be presented and discussed, changes in materials and training procedures considered, decisions made, etc.

2. Other Sections of the Guidebook. Sections of the Guidebook not consisting of training packages will be evaluated by means of pretests and post tests to be completed by selected readers and forwarded to project director. This information will be used to determine if readers in fact learn from the Guidebook. In addition, the readers will provide information about their interest level, the extent they were challenged to perform successfully, unanswered questions, and the like.

3. SPREAD Project as a whole. The project director will, from time to time, (how often?) present sections of the Guidebook to (whom?) other members of Colorado, Utah, and Washington State Departments of Education, to selected local educational leaders, and staff of other diffusion agencies for criticisms and suggestions.

In addition the Project's effort will be surveyed periodically by representatives of the U. S. Office of Education, the SPREAD Advisory Committee, the Policy Board, and professional organizations.

E. Parallel Staffing

A standard practice in selecting state agency and rural school district personnel for a cooperative effort will be the assignment of at least two people to each of the roles and responsibilities in the model. Because of the importance of interactions between people in the communications network, the assignment of a second person to the same responsibility who will act as a replacement in the case of the unavailability of the person with the prime responsibility. For purposes of formative evaluation, this second person will also act as a devil's advocate challenging and questioning the person with the prime responsibility and verifying that he has, in fact, accomplished those procedures outlined in the Guidebook. Both of these people will receive the same training program and the second, while not as continually and deeply involved, will receive periodical briefings by the person with the prime responsibility as to actions taken, problems encountered, successes and the like. It is in these briefings that the second person will verify against the Guidebook the actions of the person with the prime responsibility.

F. Next Steps

1. Time schedule for preparation and tryout of training packages.

   a. Order in which packages will be developed--completion dates.

   b. Field testing sites--dates.

   c. Revision sessions.

G. Summary

The seven categories of Formative Evaluation data are:

a. Information about the usefulness of the Guidebook. Is the Guidebook content readable and does it teach people something they do not already know? The questions are:

(1) What does it say?
(2) Is it saying something new to you?
(3) Do you agree with it?
(4) Can you do what is called for in this process Guidebook?

The data gathering measures consist of pretest, post test, tear out check list, and an interview.

b. Information about the effectiveness of the training programs. Do the training packages (programs) get people to function differently and eventually successfully, so they can perform the role? The data gathering measures consist of pretest, post test, and role-playing experiences judged by lists of criteria given to the observer. In addition, the observer verifies that persons are acting out in reality the role they played successfully.

c. Information about the commitment and planning of those trained to carry out procedures. Are people becoming committed to the roles they were trained for? Not only do they understand, but they believe in what they are doing. This is formative evaluation on the actions of the people trained.

d. Information about the success of actions taken. Check to see if people assigned to roles actually carry out these roles. Types of evidence gathered are:

(1) Direct observation by the observer of completed actions and the existence of tangible products such as a written agreement, memo, list, or a note about a phone call, and the agreements reached.

e. Information about revising the Guidebook. Plans for correcting role definition based on field observation. These would be formative evaluation used in revising the Guidebook, the descriptions of roles within the Guidebook, and the procedures carried out by the persons performing these roles. Types of information to be collected would be collected by the observer and the diffusion manager in debriefing sessions. It would consist of answers to questions such as:

(1) What did you do? Is that what it said you would do in the Guidebook? What problems did you encounter along the way? How might we change the procedures to prevent the problem

recurring another time? How much time did you invest in the activity and how might that be cut down another time? What did you improvise (what did you do that you were not asked to do but is consistent with what you were asked to do)? What suggestions for improving the training can you make? What additional suggestions for improving the training can you make? What additional training would you like to have if you were to repeat this activity another time?

(2) It also would include information on the internal consistency of language and procedure within the rewritten Guidebook.

f. Information about the success of the new practice and procedures. Formative evaluation on the continuing improved practice or procedures. It is information usually collected by the internal change agent (principal). Types of information collected are: Problems in the continued use of the improved practice. Remedial actions taken to solve these problems. Changes in the table of organization, job descriptions, allocation of resources, and policy decision making that tend to insure the success of the improved practice. The internal change agent reports the information to the School Improvement Committee for modification decisions and eventually to the diffusion manager so that the history of that project and improved practice can be summarized.

g. Information about modifying and improving the SPREAD operations. Formative evaluation of Project SPREAD's project management. Types of information to be collected are:

(1) Feedback sheets to documents.
(2) Reactions of Advisory Committee members.
(3) Analysis of the PERT's, the required redrawing (analysis of slip in schedule) for planned field activities.
(4) Information from people playing roles in one of the field efforts (debriefing interview information about the inadequacies of the process).
(5) Data about the information requested by the Policy Board or individual Chief State School Officers and their reactions to recommendations of the Project Director as they affect the decisions made by the Policy Board about subsequent operations and commitments.
(6) Information from the site visitors, the review team, and the reaction from the U.S.O.E. Regional Program Officer.

Questions about the formative evaluation design. Who collects what kind of information about which seven formative evaluation categories, in the form of which measures, how often, and gives them to whom?

For example: Garth Sorenson designs a design, observer is trained to collect the various kinds of information on supplied forms. He collects these typical types, plus others, about the seven categories and gives that information to the diffusion manager on these schedules. As a result, the

Diffusion Manager convenes the following people in each case (different in each case) and makes these types of modification decisions.

H. Definitions

a. Evaluation is the process of ascertaining the decision to be made, selecting related information, and collecting and analyzing information in order to report summary data useful to decision makers in selecting among alternatives. This definition is based on the following assumptions:

(1) Evaluation is a process of gathering information. Past definitions of evaluation are inadequate since they do not cover the full range of needed activities. These definitions have equated evaluation with either measurement and testing, statements of congruence between performance and objectives, or professional judgment. None of these definitions by itself is sufficient to provide all the necessary information or to include the multiplicity of activities now regarded as evaluation.

(2) The information collection in an evaluation will be used mainly to make decisions about an alternative course of action, rather than being employed in some other fashion. Thus, the manner in which the information is collected, as well as the analysis procedures, must be appropriate to the needs of the decision maker. This requirement might necessitate quite different analyses than that which might be employed if the purpose was understanding the education process per se.

(3) Evaluation information should be presented to the decision maker in a form that he can use effectively and designed to help rather than confuse or mislead him.

(4) Different kinds of decisions may require different kinds of evaluation procedures.

b. Evaluation - subjective judgment applied to data revealed by repeated measurement of an educational phenomenon. May be thought of as being two types:

(1) Formative Evaluation: Using data collected on a continuing basis during product or project development to guide modification of procedures or components for the purpose of immediate improvements.

(2) Summative Evaluation: Reporting comparative data when an activity is completed for purposes of summary and documentation.

APPENDIX E

Summary Outline of the Specifications for the Chapters in the Guidebook, "A Guidebook to Organizing Cooperative Efforts to Improve Small Rural Schools."

CHAPTER I HOW TO USE THIS GUIDEBOOK

How the Guidebook is organized -- how it is to be used -- developmental copyright to be established -- pages to include content, case studies, pertinent literature, and graphics -- description of an ideal rural school and an ideal state diffusion agency.

CHAPTER II HOW SMALL RURAL SCHOOL IMPROVEMENTS ARE ACCOMPLISHED

A. INFORMATION NETWORKS AND APPROPRIATE IMPROVED PRACTICES

The Six-State Educational Information Retrieval Center and linkages to other networks -- the committee for sifting of improved practices -- and, the concept of local organizational self-renewal.

B. SEA DIFFUSION LINKAGE AND COMMUNITY ORIENTED CHANGE PROCESS

Havelock's Guidebook to Innovation -- Project SPREAD Diffusion Model -- Northwest Regional Educational Laboratories Community Oriented Change Process.

CHAPTER III HOW AGENCIES JOIN TOGETHER IN PROGRAMS OF SMALL SCHOOL RURAL IMPROVEMENT

Influence vs. control model -- organizational self-renewal at both levels -- planned educational improvement -- successive approximation -- corrective feedback -- and the uniqueness of the rural setting.

CHAPTER IV HOW LOCAL DISTRICTS, WHO ARE READY, VOLUNTEER TO FORM A PARTNERSHIP WITH OTHER AGENCIES

Criteria by which districts nominate themselves -- priorities by which districts are selected -- contractual commitments of LEA's and SEA's.

CHAPTER V HOW STATE AGENCIES ASSIST LOCAL DISTRICTS TO ACHIEVE READINESS TO VOLUNTEER FOR PARTNERSHIPS.

Formation of diffusion linkages -- use of trios -- preliminary training in the school improvement process.

CHAPTER VI ORGANIZING THE AGENCIES FOR A COOPERATIVE EFFORT

A. ANALYZING PAST DIFFUSION EFFORTS OF THE SEA

Analysis of past diffusion practices -- study of organizational and structural changes required to activate and maintain a diffusion function -- cost effectiveness -- cost benefit.

B. ORGANIZING THE SEA TO FACILITATE AND MAINTAIN THE DIFFUSION FUNCTION

Project SPREAD Diffusion Model -- Ron Havelock's linkage perspective -- the SEA organized on the basis of school improvement functions vs. an SEA organized on the basis of subject matter, content, and special programs.

CHAPTER VII ORGANIZING AND TRAINING THE SEA SUPPORT TEAM

Roles and relationships -- consultant role vs. the change agent role -- relationship, diagnosis, acquisition, choosing, acceptance, self-renewal, (Ron Havelock) -- training programs and trainer manuals.

CHAPTER VIII ORGANIZING AND TRAINING THE LOCAL IMPROVEMENT FIELD TEAM

Field coordinator as the outside change agent -- local administrative leader as the inside change agent -- technical assistance consultant as the outside change agent -- local staff as the inside change agent -- community oriented change process and the community oriented change team -- Formative Evaluation Plan for Project SPREAD and the observer's role -- user's manual and training programs.

CHAPTER IX DEVELOPING THE ROLES OF THE SEA SUPPORT TEAM

Training, retraining, self-corrective feedback, formative evaluation -- revision of training programs.

CHAPTER X DEVELOPING THE ROLES OF THE LOCAL IMPROVEMENT FIELD TEAM

Training, training programs, revision of training programs, formative evaluation -- formative evaluation observer -- parallel staffing and monitoring roles -- revision of training programs.

CHAPTER XI BRIEFING THE TEAMS TO THEIR ROLES

Tear out chapters to the Guidebook -- one day awareness workshops -- one-day orientation sessions -- support efforts, incentives, and reinforcements.

CHAPTER XII GATHERING INFORMATION ABOUT FIELD EFFORTS

Collection schedules and methods -- observer's reports -- cost effectiveness data -- student attitude and achievement data -- diffusion manager's responsibility for supervision.

CHAPTER XIII EVALUATING AND REVISING THE SUPPORT AND FIELD EFFORTS

Formative Evaluation Plan for Project SPREAD (evaluation for the purpose of improvement and revision) -- to provide for local self-renewal -- to improve products, to revise roles, and to change procedures -- revision of priorities and goals of SEA and LEA.

CHAPTER XIV EVALUATING AND REVISING THE PROJECT SPREAD MODEL

Self-corrective mechanism and Formative Evaluation Plan for Project SPREAD.

CHAPTER XV EVALUATING AND REVISING THE GUIDEBOOK

Corrective feedback forms -- successive approximation -- managenent of diffusion efforts.

CHAPTER XVI EVALUATING AND REVISING THE FORMATIVE EVALUATION PROCEDURES

CHAPTER XVII SELF-RENEWAL AND INSTITUTIONALIZING THE IMPROVEMENT PROCESS

APPENDIX F

GLOSSARY

There are terms and phrases used in the publications of Project SPREAD which may need to be clarified for maximum understanding. These are presented below:

1. COOPERATIVE DIFFUSION PROCEDURES
   diffusion procedures (strategies) developed using Project SPREAD methods which will be described in detail in the Guidebook.

2. COOPERATIVE EFFORTS
   program development or modification by schools, districts, and educational agencies which are mutually developed and achieved.

3. DIFFUSION
   total process of implementing the spread of educational innovations. The process involves information consumption, social interaction, and behavioral change through which an innovation is incorporated into an individual, a group, or a system. The diffusion process includes the ten sub-processes of: 1) dissemination, 2) demonstration, 3) adoption, 4) adoption modification, 5) invention, 6) implementation, 7) evaluation, 8) sustaining support, 9) institutionalization, and 10) internalization of the self-renewing process.

4. EVALUATION
   subjective judgment applied to data rendered by repeated measurement of an educational phenomenon may be thought of as being of two types:
   1. Formative Evaluation. Using data collected on a continuing basis during program or Project development to guide modification of procedures or components for the purpose of immediate improvements.
   2. Summative Evaluation. Reporting comparative data when an activity is completed for the purposes of summarization and documentation.

5. IMPROVED PRACTICES
   programs or activities in a school in which measurably better student self-image, attitude, or performance is evident.

6. INNOVATION
   a new (or different) concept, methodology, organization, or program that is systematically introduced into the classroom, school system, and/or the state. For the purpose of this study, an innovation is defined as an approach or program perceived as new by the individual or system.

7. INSTITUTIONALIZE
   when a function, program, or practice is accepted as "belonging" so completely that it is not commonly thought of separately. Often institutionalized programs are referred to as the "_____" program, (example: Colorado Springs Program.)

8. JOINT EFFORT
the effort of the three states in the Project--distinguished from cooperative effort of schools, districts, and other agencies in program development or modification.

9. MODEL
a graphic or verbal representation of a complex phenomenon, so as to display its totality as well as the relatedness of portions of the whole. In Project SPREAD, the Model will be a representation of the current working structure to accomplish diffusion by cooperative efforts.

10. NEEDS ASSESSMENT
a routine, formalized, ongoing process to determine whether or not there are discrepancies between that which the policy makers and individuals in the organization believe ought to be and what is found to be. Any discrepancies found are described as needs.

11. SELF-RENEWAL
in a person, the ability to be self-motivating and self-actualizing. When applied to a system, it correctly would be stated as "ever-renewing" or a system that provides for its own continuous renewal. The self-renewing organizations provide a framework within which continuous innovation renewal and rebirth can occur. In Project SPREAD, the operational definition is achieved when all the roles performed by outside agencies (#1 through #10) are being performed in the local district by local persons. Thus, making the small rural school more rational, planful, evaluative, and self-actualizing.

12. SUCCESSIVE APPROXIMATION
a developmental process for achieving an ultimate goal through a series of smaller improvements or refinements of portions of the phenomenon under development. A logical-deductive, analytical breakdown of the total entity into smaller improvable portions. Experiments and developmental operations are applied to each, abandoning unsuccessful efforts and maximizing the investment in those processes and products for which evidence indicates success. In Project SPREAD, both the Model and Guidebook will be developed in this manner.